May 1960
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AMERICAN Journal of Public Health

AND THE NATION'S HEALTH

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AMERICAN
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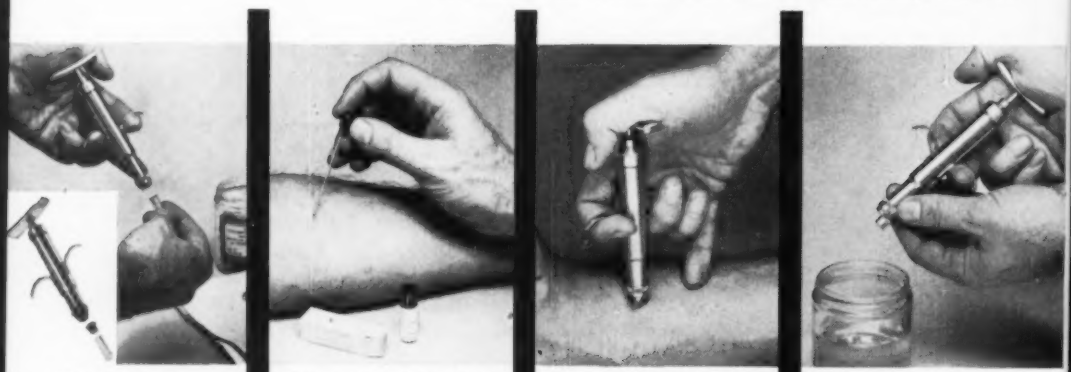

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REFERENCES: (1) Ives, M. Safety Evaluation of Food Packaging Materials. *Journal of the American Dietetic Assoc.*, (Apr. '57)
(2) Ives, M., and Duck, G. M. Safety of Inside Enamel Coatings Used in Food Cans. *Food Research*, (Jan. '57)

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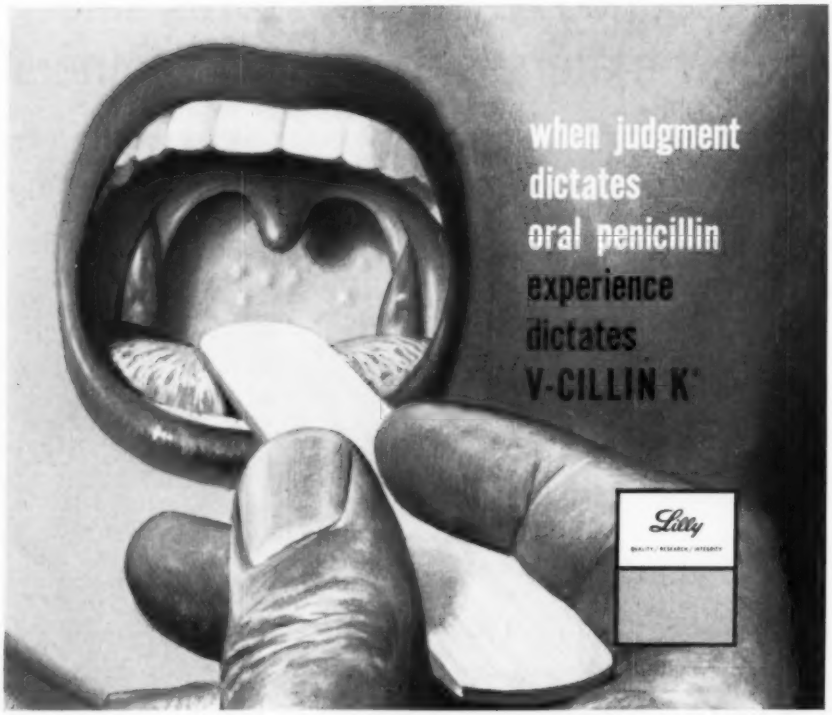

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1. Griffith, R. S.: Comparison of Antibiotic Activity in Sera Following the Administration of Three Different Penicillins, Antibiotic Med. & Clin. Therapy, 7:No. 2 (February), 1960.

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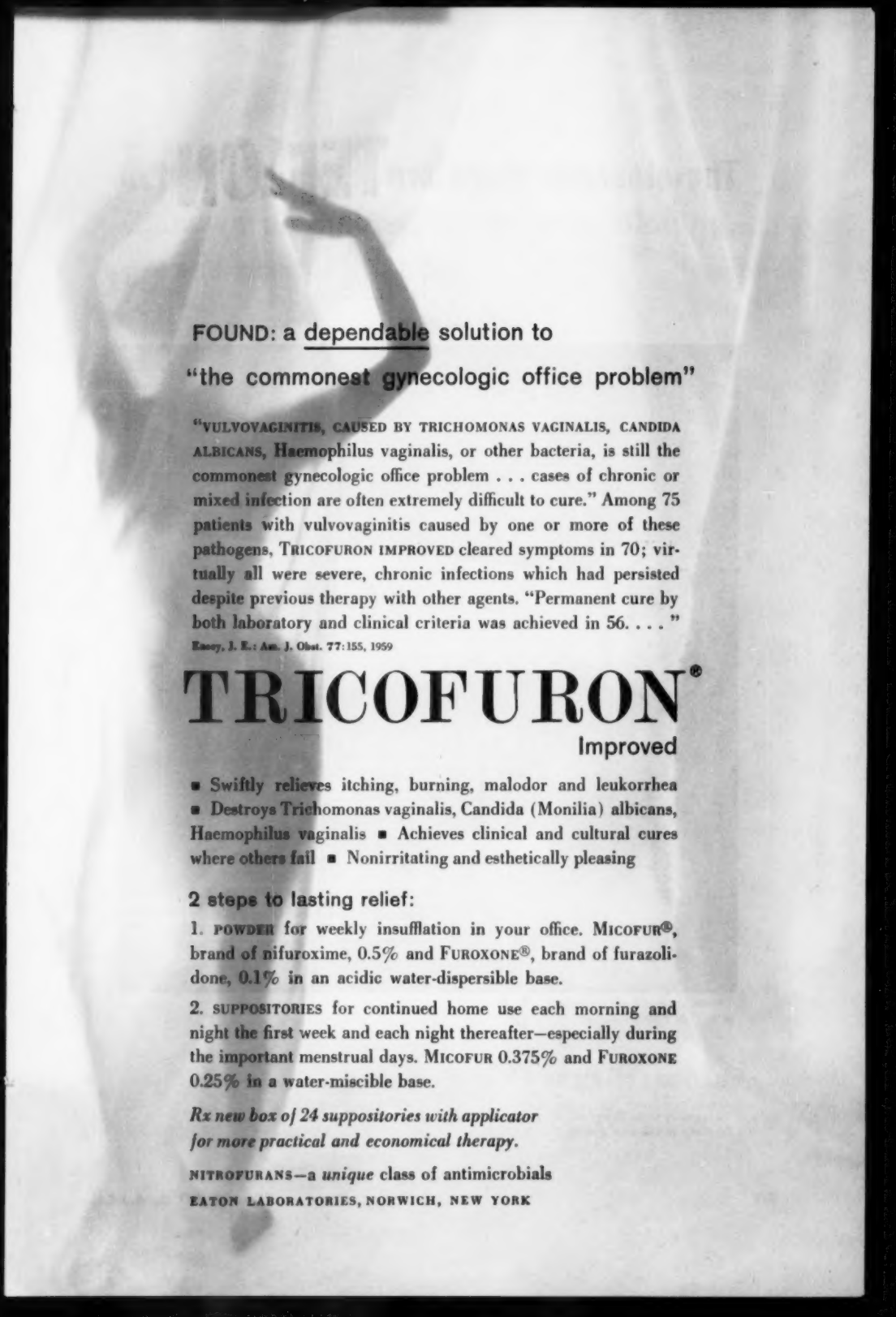

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Eacey, J. E.: Am. J. Obst. 77:155, 1959

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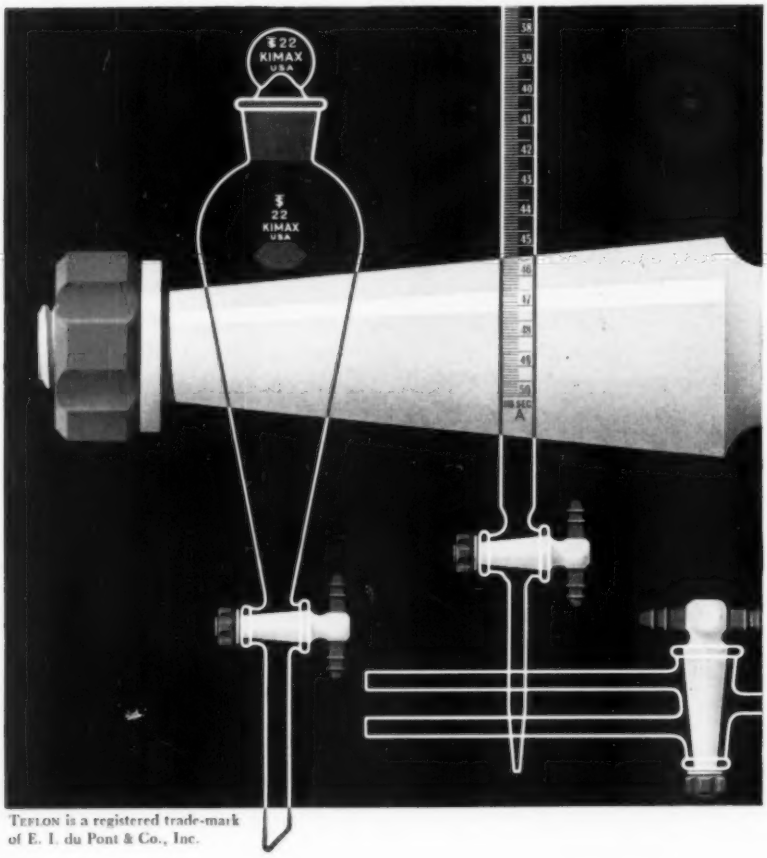

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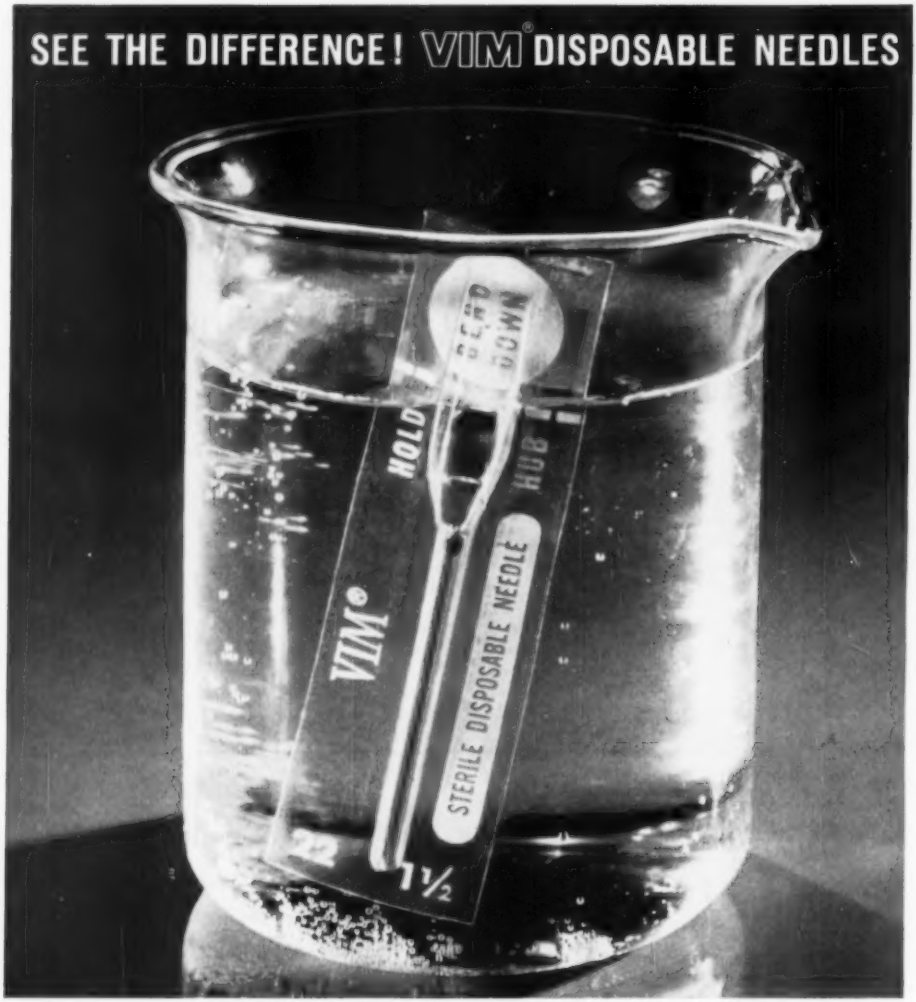

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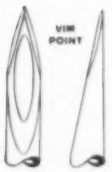

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1. Cook, J.E., Briggs, G.W., and Hindley, F.W.: Chronic Amebiasis and the Need for a Diagnostic Profile, Am. Pract. and Dig. of Treat. *6*:1821 (Dec., 1955).

2. Rinehart, R.E., and Marcus, H.: Incidence of Amebiasis in Healthy Individuals, Clinic Patients and Those with Rheumatoid Arthritis, Northwest Med., *54*:708 (July, 1955).

3. Webster, B.H.: Amebiasis, a Disease of Multiple Manifestations, Am. Pract. and Dig. of Treat. *9*:897 (June, 1958).

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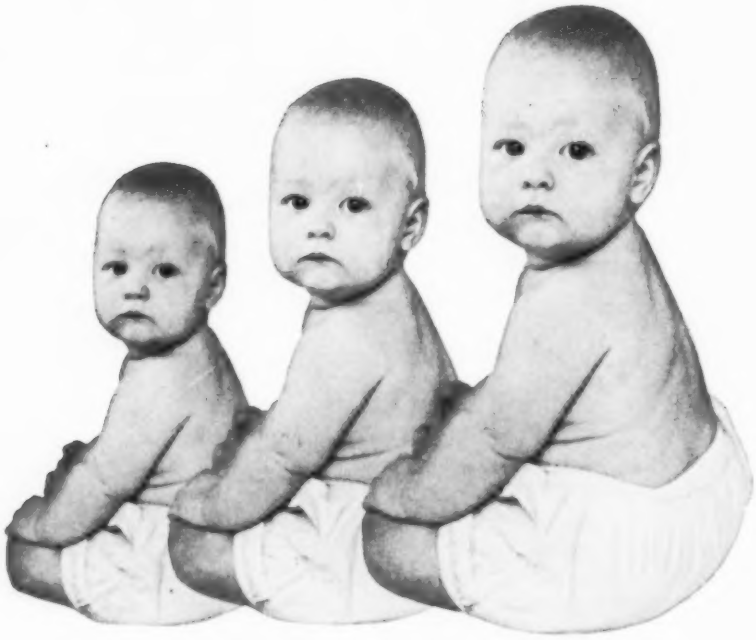

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References: 1. Sturgeon, P., in Wallerstein, R. O., and Mettier, S. R.: Iron in Clinical Medicine, Los Angeles, University of California Press, 1958, p. 183. 2. Smith, N. J., and Schulz, J., op cit., p. 65.

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Wide, Stable Antimicrobial Spectrum

"Because of its relationship to previously developed nitrofurans, it is anticipated that [ALTAFUR] will retain its original spectrum after longstanding clinical usage."[5] Development of significant bacterial resistance to ALTAFUR has not been encountered to date.[6]

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Side effects are easily avoided or minimized by these simple precautions: 1) *alcohol should not be ingested in any form, medicinal or beverage, during* ALTAFUR *therapy and for one week thereafter* 2) each dose should be taken with or just after meals, and with food or milk at bedtime (to reduce the likelihood of occasional nausea and emesis).

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1. Weiner, A. L.: Paper presented at the Conference on Recent Advances in the Treatment of Chronic Dermatoses, University of Cincinnati (Ohio), Nov. 5, 1959. 2. Compiled by the Medical Department, Eaton Laboratories, from case histories received. 3. Christenson, P. J., and Tracy, C. H.: Current Therapeutic Research 2:22, 1960. 4. Glas, W. W., and Britt, E. M.: Proceedings of the Detroit Symposium on Antibacterial Therapy, Michigan and Wayne County Academies of General Practice, Detroit, Sept. 12, 1959, p. 14. 5. Leming, B. H., Jr.: Ibid., p. 22. 6. Investigators' reports to the Medical Department, Eaton Laboratories.

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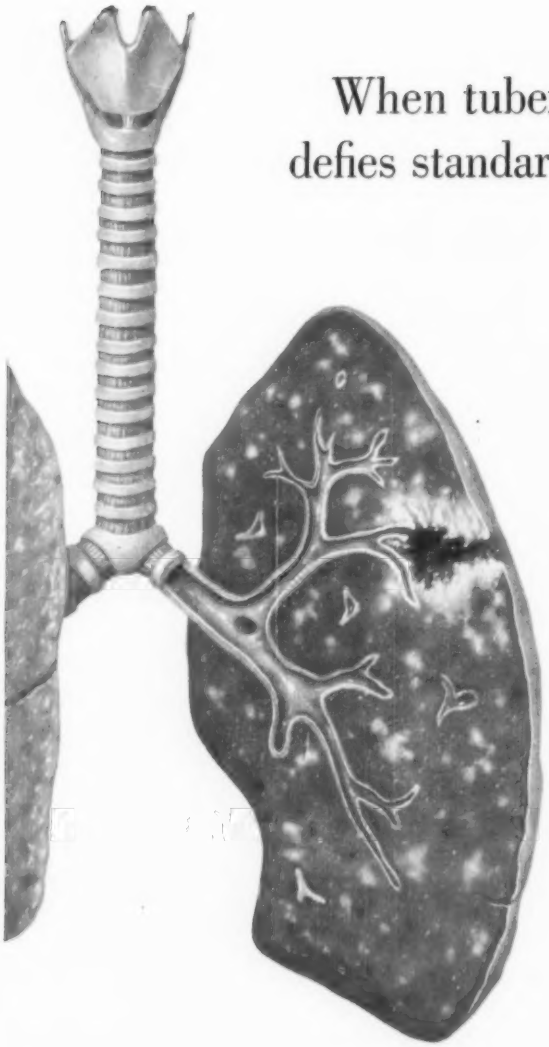

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in combination with other agents provides protection against the operative complications prevalent under these conditions.[1-6]

Professional literature (details of dosage, administration, contraindications and toxicity) is available upon request.

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References: 1. Webb, W. R., and Sparkuhl, K.: Dis. Chest *34*:484-495 (Nov.) 1958. 2. Pecora, D. V.: Am. Rev. Tuber. *77*:83-92 (Jan.) 1958. 3. Pines, A.: Tubercle *38*:189-193, 1957. 4. Edge, J. R., Kamiel, M., Scott, N. C., and Weber, J. C. P.: Brit. J. Tuberc. *51*:168-172, 1957. 5. Davey, W. N.: GP *19*:107-117 (Jan.) 1959. 6. Pfeutze, K. H., and Pyle, M. M.: Radiology *71*:340-344 (Sept.) 1958.

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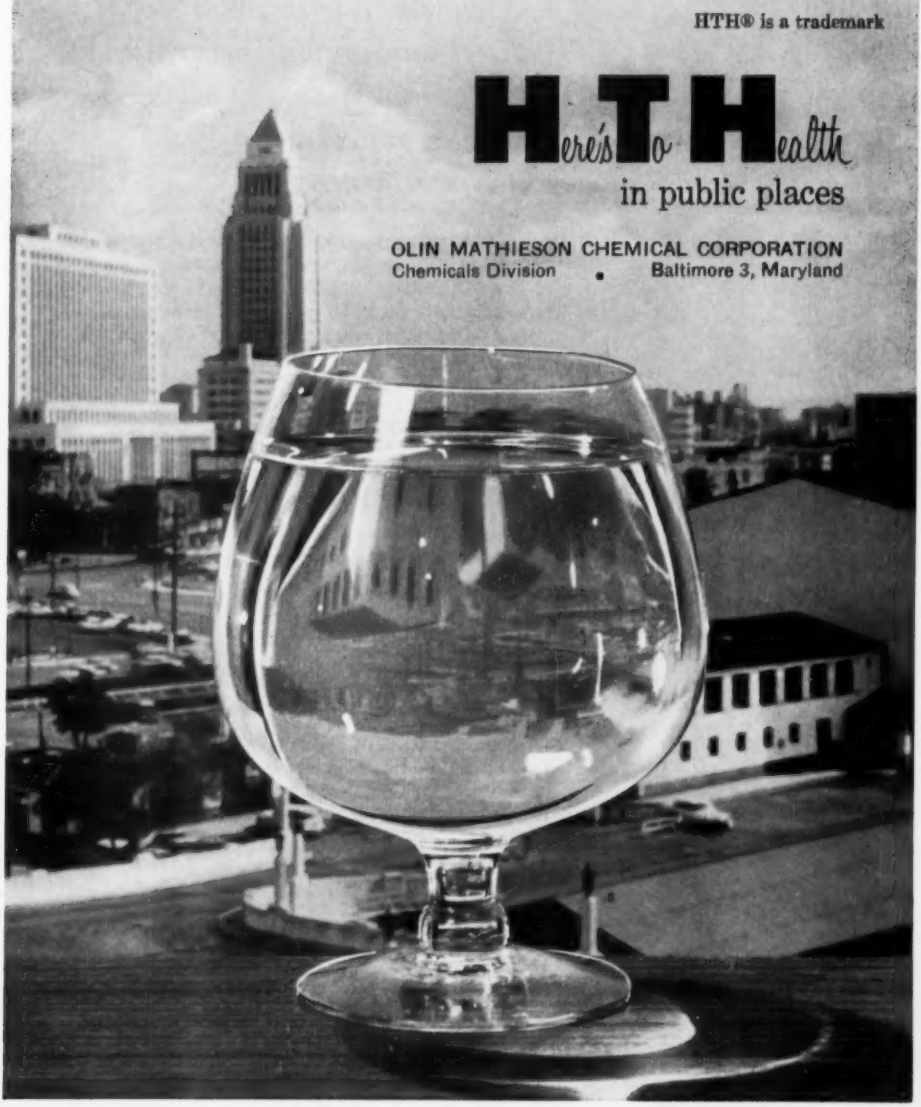

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- Helping administer milk in febrile cases
- Combating food or chemical poisoning
- Stimulating appetite
- Supplying quick energy
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Of course, bottlers of carbonated beverages do not rely on autopurification alone. They use modern chemistry, bacteriology and engineering applications to insure the purity of their product.

[1]McClellan, Walter S. "The Utilization of Ingested Carbon Dioxide, A Review" 1955.

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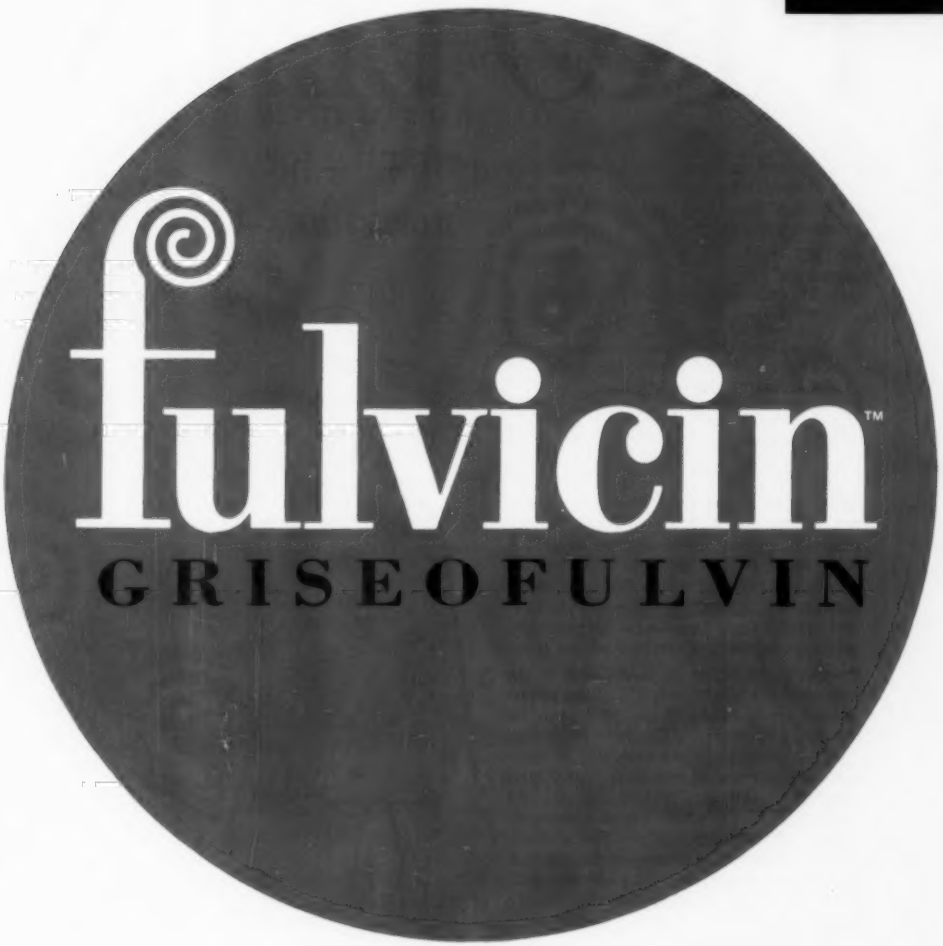

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9-423

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In 1957, this nation's food supplied per person per day . . .

3,180 calories provided by 96 gm. of protein . . .
145 gm. of fat . . . and 382 gm. of carbohydrate . . . accompanied by
1.03 gm. calcium . . . 16.5 mg. iron . . .
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1.84 mg. thiamine . . . 2.35 mg. riboflavin . . .
20.1 mg. niacin . . . 0.13 mg. folic acid . . .
106 mg. vitamin C.

Of the 96 gm. of protein per person per day . . . ⅔ was supplied by foods of animal origin and ⅓ by foods of plant origin . . . ⅓ by meat, poultry and fish . . . ¼ by milk and dairy foods . . . 1/5 by flour and cereal products . . . 1/7 by vegetables and fruits . . . and 1/14 by eggs. This food supply provides generous amounts of essential amino acids.

Protein malnutrition is rarely seen in the United States where only 1% of the households have less than 50 gm. of protein per day per adult man . . . 72% have more than 100 gm. per day . . . and even 50% of families with incomes of less than $2,000 have more than 100 gm. protein per day per adult man . . . for whom the recommended dietary allowance is 70 gm. Those whose protein intakes least often meet their recommended allowances are . . . adolescent girls . . . homemakers . . . and elderly people.

Diets which supply the pregnant woman with less than 50 gm. of protein and 1500 calories were found, in one study, correlated with maternal and fetal complications.

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The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

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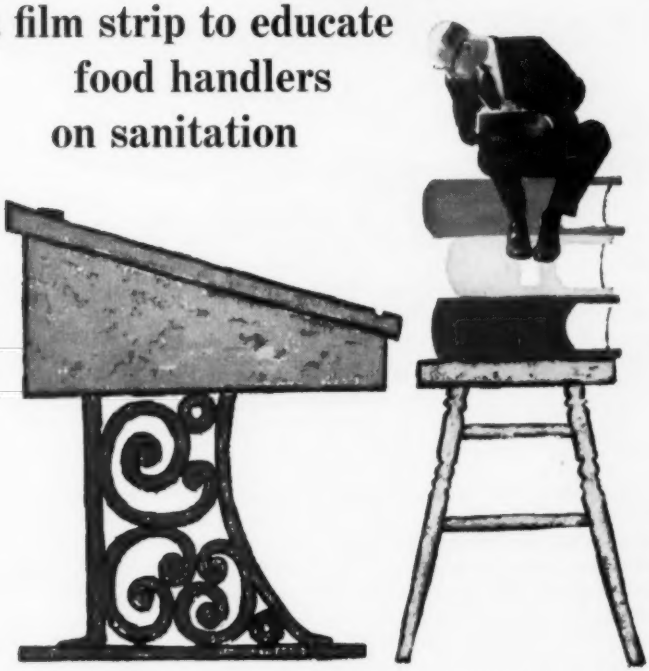
The Man With The Lily Plan provides a film strip to educate food handlers on sanitation



Now Lily* offers a four-color film strip—free—that shows food managers, waitresses and kitchen help the importance of sanitary food service . . . and the best way to attain it.

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Health experts now using the film strip are highly enthusiastic. We think you'll feel the same way. Let us know when you need it. And remember, it's *absolutely free!* Just fill in the coupon.

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ROCCAL is not only capable of destroying these pathogenic microbes but of destroying them rapidly. Comparative investigations for rapidity found that ROCCAL destroyed test organisms of Staph. A. in less than 1 second whereas iodine, several mercurials and chlorine preparations destroyed only a fraction of the organisms within 5 minutes.

A product of one of the world's leading pharmaceutical manufacturers, ROCCAL is subject to testing at the manufacturing level, batch tested at Sterwin's Control Laboratories and tested a third time when the product is bottled. ROCCAL is a potent bactericide: highly stable, stainless, non-irritating, virtually tasteless, odorless, non-corrosive and non-poisonous in recommended dilutions.

ROCCAL HAS HIGH HARD WATER TOLERANCE—550 ppm—Official Test Method

Roccal's New Field Test is an accurate and practical method of determining the strength of Roccal sanitizing solutions.

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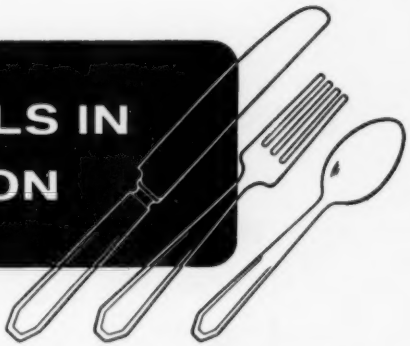

Food... Rx for personal and public health

Tools become symbols of trades and professions. A stethoscope signifies a physician. A drill stands for dentist. A thermometer suggests nursing.

Consider tableware—foods and nutrition. A knife, fork and spoon are tools. In one person's lifetime, they are used to convey tons of food from plate to person—food that is processed in the almost miraculously complicated chemistry of nutrition into living bone, skin, teeth, muscle, nerves and energy. Food selection thus can mark the critical difference between degrees of illness or robust good health.

In this sense, a knife, fork and spoon are tools of personal nutrition—good or bad. Let them symbolize the science of nutrition . . . of utmost importance to the physician, dentist, nurse, dietitian, or public health worker . . . to all who professionally counsel a person on what and how much to eat.

Because you serve as an advisor on food in clinical or general practice, may we offer you another "tool" —the "Shield of Good Health," illustrated at left. This chart is a full color visualization of a new Four Group Guide to food selection, devised by the nutritionists of the Department of Agriculture. For your review copies in two sizes, please write or send the coupon.

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ENRICHED . . . and whole wheat flour foods are listed among the "Essential Four" food groups set up by the U. S. Dept. of Agriculture's Institute of Home Economics. Diet selected from these foods provides ample protein, vitamins and minerals.

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Journal of Public Health

With the increase of radioactive material in the environment, the public health laboratory is compelled to deal with this new pollutant and such problems of sanitation as it creates. Routine programs for this activity are necessary, and the following report discusses what can be done and how it is being done in Florida.

THE ROLE OF THE PUBLIC HEALTH LABORATORY IN RADIOLOGICAL SCIENCE

F. Wellington Gilcreas, F.A.P.H.A., and George B. Morgan

THE RAPID DEVELOPMENTS in nuclear science in recent years have focused attention upon the problems of radioactivity, particularly as related to potential contamination of the environment. Although radioactivity has always been present to some degree in air, soils, and occasional water sources, the amount of such radioactivity is now increasing and will continue to increase as the uses of nuclear energy are extended. The small amounts of radioactivity naturally present in the environment may be markedly increased by military operations, by atomic explosions and the testing of nuclear weapons, by the accelerated employment of radioactive compounds in research and in medicine, and by the waste products of industrial operations using nuclear reactors as sources of power; and from mining operations for the acquisition of radioactive minerals for use as reactor fuels and other requirements. The hazards of radioactivity in the environment and of radioactive contamination of such substances as water, milk, and foods have been much discussed in the public press; although perhaps overemphasized at times, they do constitute a real health problem. The possible overemphasis of these hazards makes the problem of what to do about them even more acute. Thus the laboratory concerned with problems of sanitation and public health is now presented with the necessity of undertaking, without delay, new technics for the detection and evaluation of a new type of pollutant and of a new health problem. To provide such a service, the laboratory must

acquire new equipment and become familiar with new and at present not too well established technics. Service in radioactivity determinations must include both routine activities and special investigations. The use of these laboratory services in connection with enemy military action may be disregarded for the present. Atomic explosions and weapons testing activities over the past few years have produced radioactive dust in the atmosphere which appears now as "fallout" on the soil, in rainfall, and in surface and ground water sources. Such radioactive fallout can be absorbed by growing plants constituting forage crops and will be the source of radioactivity in milk obtained from cows fed with these crops. These increasing and possibly significant amounts of radioactivity will be present in soil, water, air, milk, vegetation, and all significant areas of environmental sanitation. With increased use of nuclear fission as a source of power for industrial operations, waste products will be formed and despite care in operations, may at times contaminate air and water sources radioactively.

It is thus apparent that a routine program for the detection and measurement of this newly recognized form of environmental pollution is essential. Just as there are now routine programs of bacteriological examination of water and milk for controlling or "monitoring" the safe sanitary quality of these products, there is also required a routine program of measuring the amount of radioactivity in air, water, milk, and other factors of our environment. As with all other phases of sanitation, the laboratory must take the lead in providing the essential services and programs. There is considerable experimental evidence to indicate that radioactive pollution will appear in streams and other bodies of water used as sources of public supply, and further that a portion of such activity may be removed by conventional methods of water treatment. Thus radioactivity measurements become an essential part of the laboratory control of water quality.

Accidental disposal or discharge of radioactive compounds used in medicine and research into sewers will present another potential problem in sewage treatment control. There are, of course, many other avenues by which radioactivity may become a pertinent problem in sanitary and environmental sanitation.

To determine the need and value of radioactivity surveys, a routine monitoring program was established some three years ago at the Phelps Sanitary Engineering Research Laboratory of the University of Florida. Although this is in no way a complete program, it can serve as a pattern of what can be done and what can be accomplished.

Monitoring Survey

This monitoring program includes regular sampling of air, rain, sewage, and water supplies. Plants and soil are also examined periodically.

Air is sampled continuously on a 24-hour basis using a battery of water aspirators as the source of vacuum. This system filters 10 liters of air per minute and is controlled with a limiting orifice. Filters 2 cm in diameter are used and have an effective porosity of 0.25 microns. It was found necessary to elevate the filter 35 feet from the ground to reduce the effects of radon, thoron, and localized dust. These air filters are collected and the entire filter is counted daily. The effects of radon are overcome by waiting from four to six hours after collection before initiating the examinations. This permits the decay of radon daughter products and therefore provides a more accurate estimate of true fallout.

For six months a 5 cm disc filtering 22 liters of air per minute was used for comparison. The difference between

these two filters in the detection of radioactivity was less than 5 per cent over the six-month period. The use of this large filter which required a vacuum pump was therefore discontinued. Results of radioactivity determinations in air are reported in micro-microcuries per cubic meter of air.

All rain is collected in a rain gauge with a polyvinyl chloride lining. This prevents any ion exchange between zinc plating and the rain. Rain is collected when it occurs and volumes of the rain up to 500 ml are dried in a clean beaker. The residue is moistened with a few drops of 1 N HCl and quantitatively transferred to a planchet for counting. The Phelps Laboratory expresses results both in micro-microcuries per liter and micro-microcuries per square meter.

Sewage is collected both at the city sewage treatment plant and the University of Florida sewage treatment plant. Raw sewage will contain radioactivity that may subsequently be removed or reduced by treatment operations. Sewage treatment effluent will, however, represent only the amount of radioactivity that would be released into the receiving waters or into the environment. At the campus plant a portion of the raw sewage is collected during 16 seconds out of every five minutes. This sample is composited over a 24-hour period to yield a total sample volume of 1 gallon. The final effluent of the city sewage treatment plant is sampled three seconds out of every minute to provide a total sample volume of 3 quarts daily. A 250 ml aliquot portion of each sample is dried. The residue is moistened with a few drops of 1 N HCl and transferred to 2 inch planchets. This volume of sample is selected so that the sample density would not be greater than 5 mg/cm^2, therefore reducing self-absorption. Results from sewage analyses are reported as micro-microcuries per liter.

Water before softening treatment by the city of Gainesville is sampled daily. The flow pattern of the city water plant makes it necessary to collect grab samples from an 0.4 million gallon holding tank. Radioanalysis is performed in the same manner as for sewage.

Monthly samples of water are taken from 20 stations in Alachua County and include lakes, streams, private wells, and most of the public water supplies in the county. These samples are examined by the same procedure as that for water, and the results are reported as $\mu\mu$c per liter.

Plants and soil are analyzed for radioactivity from four to eight times yearly. Ten stations have been established on the university campus. A layer of soil ½ inch thick and ¼ square foot is extracted with 1 N nitric acid. The residue is dried, redissolved in distilled water, and the solids content determined. A measured volume of the extract is dried on the planchet so that a sample density of not greater than 5 mg/cm^2 will be counted.

New shoots of plants are used for monitoring vegetation since mineral exchange is most rapid in this part of the plant. These shoots are dried and ground. A series of samples are prepared from each sample so that a sample density of 2, 5, 10, and 20 mg/cm^2 will be obtained. These results are allotted and self-absorption calculated. The samples are ashed and recounted to determine the presence of carbon-14, iodine-129-131, and sulfur-35. Results for both soil and plants are reported as micro-microcuries per gram of dry material. Milk should also be analyzed periodically to ascertain the background level before the environment is further contaminated.

Radiation Determinations

Monitoring samples are examined for alpha and gross radiations. Alpha radiation is determined with a windowless proportional counter. The samples are

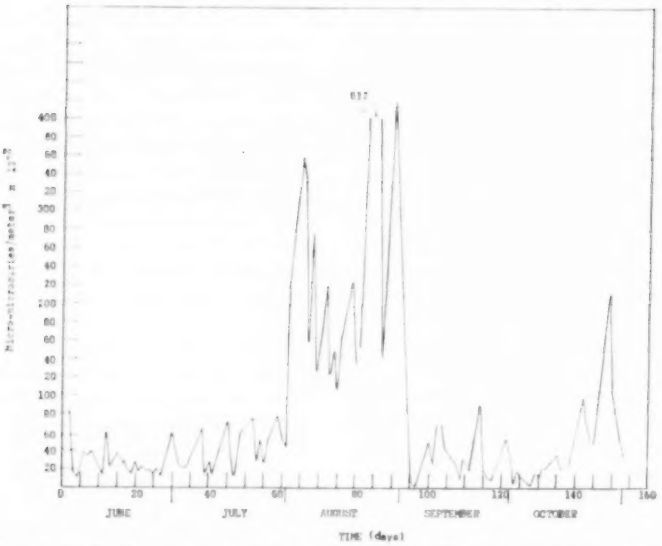

Figure 1—Radioactivity in Air at Gainesville, Fla., June, July, August, September, October, 1958

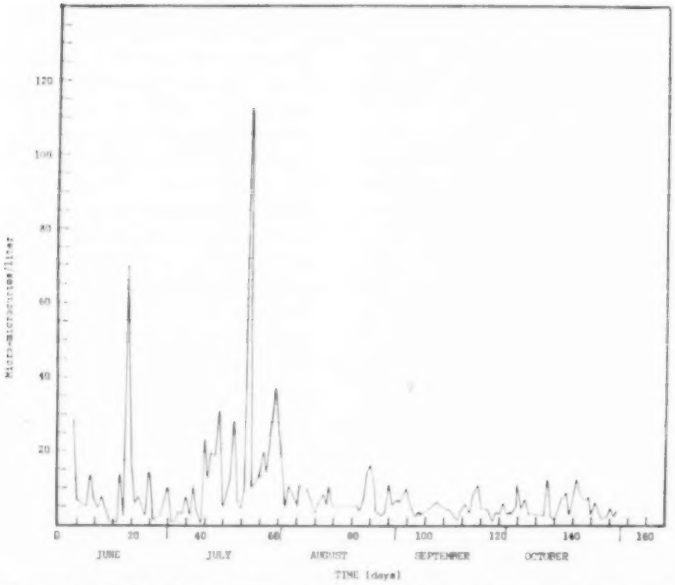

Figure 2—Radioactivity in Sewage at Gainesville, Fla., June, July, August, September, October, 1958

counted for 15 minutes if the activity is lower than 200 cpm or for five minutes if the activity is greater than 200 counts per minute. Samples for gross radiation determination which includes alpha, beta, and gamma radiations are counted for a total of 2,500 counts above background or 30 minutes. This establishes a confidence level of 95 per cent or 1.96 standard deviations. Total counts are corrected for technical nonconformities, such as efficiency, back scattering, self-absorption, and geometry which then converts counts per minute to disintegration per minute. These data can then be converted directly to micro-micro-curies by dividing by 2.2.

Facilities for Radioactive Measurements

To undertake measurements of radioactivity required for an environmental monitoring program, specialized and expensive equipment not ordinarily found in a public health laboratory must be provided. Personnel, proficient not only in the operation of this equipment but in its care and maintenance, must also be available. The technical operations will be facilitated and the accuracy of the determinations enhanced by locating the phase of the laboratory work in special quarters planned and constructed for the particular purpose.

The facilities at Phelps Laboratory are adequate for most types of monitoring surveys and the present staff permits undertaking a load of 15-20 samples of various types per day. Two automatic counting systems both of which have proportional counters are used. One, a Baird-Atomic system, has a capacity of 50 samples and the other, a Nuclear-Chicago system, has a capacity of 35 samples. The Nuclear-Chicago system which is used for alpha determinations has a windowless detector and contains a present time and count control. The Baird-Atomic system which is used for gross counts has a thin window, 45 $\mu g/cm^2$ and also a preset count. In addition to these systems two windowless semiautomatic proportional counters are used with scalers having a resolution time of 1 micro-second. Both of the latter systems have preset count and preset time controls. Two other scalers are used for dip counters, Geiger-Muller detectors, or as spare scalers.

A well type scintillation detector is used in conjunction with a recording gamma spectrophotometer for radioisotope analysis. This instrument is useful for gamma energy ranges from 0 to 8 mev. The total cost of this equipment including survey meters, sampling devices, and ancillary items comes to a little over $33,000.00.

With a less extensive program and the submission of fewer samples per day the equipment needed can be reduced. However, a proportional flow counter and two scalers with ancillary equipment is the least that should be provided. A spare scaler is necessary since breakdowns are inevitably frequent.

The radiological laboratory has 265 square feet of floor space. This is divided into a workroom and a counting room. The counting room has 18 inches of concrete on all six sides and the door contains enough lead to give shielding equivalent to 18 inches of concrete. All materials that were used in construction of the counting room were checked for natural activity. Several truck loads of sand were rejected because of radium, thorium, and uranium content. The workroom has laboratory benches covered with premolded Formica. This makes them easier to keep clean and to decontaminate. The entire laboratory is maintained at a temperature of 78° F and a relative humidity of 75 per cent. It was found that temperature and humidity control decreased breakdown by as much as 60 per cent. The cost for constructing this section of the laboratory was $17,000.00. Such specialized construction may not be essential; but,

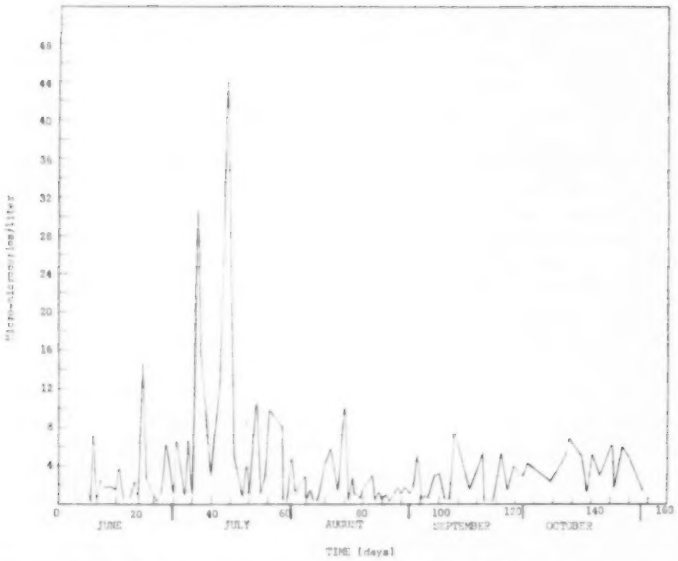

Figure 3—Radioactivity in Raw Water at Gainesville, Fla., June, July, August, September, October, 1958

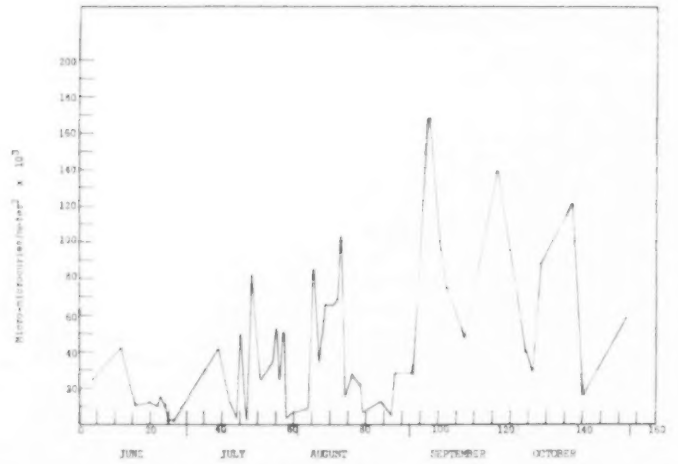

Figure 4—Radioactivity in Rain at Gainesville, Fla., June, July, August, September, October, 1958

isolated laboratory quarters shielded so far as practicable from interference by background radiation and with controlled temperature and humidity are necessary for radioactivity determinations.

High school graduates make very satisfactory technicians for routine monitoring examinations. College graduates can become bored with this type of routine and repetitive work. A training period of from six to eight months is necessary before a technician is competent in operating counting systems and in calculating data.

Laboratory Technics

Radiological methods for the examination of sewage, water, rain, soils, and biological samples will be included as tentative procedures in the 11th edition of "Standard Methods for the Examination of Water, Sewage, and Industrial Wastes." The publication date for this book is the latter part of 1960.

An essential part of any monitoring survey of radioactivity is the maintenance of complete and accurate records of all observations and determinations. In this way data can be available to assess the significance of radioactive conditions in the environment.

The interpretation of the results of radiological determinations associated with a monitoring program must be based on a full understanding of the principles of nuclear science and on an appreciation of the limitations of the counting equipment and of the sampling procedures. If much of the radioactivity measured is due to gamma radiation, the determinations will be lower than the actual amounts, since the efficiency of a proportional counter in detecting these rays is in the region of 1 per cent.

Radioactive compounds discharged into a sewer line may be absorbed by biological growths in the sewers and thus removed from the sewage before a sample is collected. On two separate occasions the Phelps Laboratory was notified that several microcuries of iodine-131 had been discharged into the sewer, but the integrated samples of sewage collected during several days subsequent to this discharge failed to show any comparable increase in radioactive count.

Definite conclusions as to significance of the radioactivity detected in any given sample must be based on the determination by radiochemical analysis of the specific isotope or isotopes present.

In general only the amount of gross activity found can be considered. If this is greater than the tolerance levels prescribed for the particular material under examination, this fact alone can be noted and reported.

The importance of even small increases in radiation above the normal background amounts in air, water, sewage, and other materials cannot be disregarded and should be the basis for more extensive investigations.

Results of the monitoring survey conducted by the Phelps Laboratory during the period from January to June, 1958, have been tabulated and are expressed graphically in the Figures 1 to 4. This type of graphical presentation is an aid to the interpretation of results, since marked variations from normal trends in radioactive intensities are definitely indicated. A review of these figures will illustrate the wide range of findings of radioactivity in rain. These variations may be the direct result of testing operations or may be due to the differences from heavy showers and by continued periods of rainfall. Similarly, vagaries will appear in the degree of radioactivity in water samples, possibly due to dense concentration of fallout and subsequent discharge through runoff into the water source. These variations are most readily noted by continuous plotting of the results of radioactive determinations. Marked and sudden increases of radio-

activity in sewage, for example, may at times defy reasonable explanation and interpretation.

In some instances gross radioactive determinations for water and sewage are sufficient; however, if the proportional counter is available alpha content can be determined with little extra trouble. Any appreciable rise in background activity should be investigated further using more precise counting methods and possibly radiochemical analysis.

Summary

The hazards concerned with increasing uses of radioactivity and radioactive compounds make it essential that every public health laboratory, not excluding those concerned directly with water and sewage treatment operations, be prepared and equipped to make the necessary measurements of radioactivity in the environment. This requires the acquisition of new equipment and laboratory facilities, the training of specialized personnel, and the unavoidable increases in budgets. For the purpose a complete monitoring survey with sampling of air, water, sewage, and related materials is necessary and should be strategically located relative to possible present and future sources of radiative contamination. Such a survey conducted at the University of Florida is described in some detail including the facilities available and the technics used in the radiation measurements. A major function of such surveys is the accumulation of data relative to normal background concentrations of radioactivity. With such data available the significance of any radioactive pollution of the environment can be assessed. Much can be accomplished with minimum facilities and equipment, but as the uses of nuclear operations increase more complex equipment, added personnel, and greater scientific skill will be required.

The interpretation of the results of measurements of radioactivity is difficult and requires a broad knowledge and training in nuclear science.

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This paper was presented before the Laboratory Section of the American Public Health Association at the Eighty-Seventh Annual Meeting in Atlantic City, N. J., October 20, 1959.

What has been the experience so far with the Food Additives Amendment? Newspaper accounts are hardly a substitute for a rational picture of what happens on a day-to-day basis. This picture of how it looks from the administrator's position will undoubtedly be more illuminating for readers of this Journal.

EXPERIENCE WITH THE FOOD ADDITIVES AMENDMENT

John L. Harvey

OUR EXPERIENCE with the Food Additives Amendment of 1958 has been interesting indeed. True, much of it so far has been in the nature of prologue. Our first obligation was to develop suitable regulations for our own guidance and the guidance of industry. Very naturally these regulations could not anticipate every possible eventuality, nor could they be expected to please everyone who will be regulated by them. I am happy to say that the regulations have been very well received and, indeed, inasmuch as they merely reflect the implementation of the law itself, any serious objection to the regulations would stem from dissatisfaction with the law.

Very naturally much of the interest of affected industry has centered around the idea that many products which would be called food additives in ordinary parlance are not food additives in the words of Art that these terms represent in the statutory language. For convenience we have had to refer to such substances as "exempt additives." This term is not quite applicable in all instances. An added substance may not be subject to the additives amendment either because it falls outside of the definition or because it has a prior sanction or approval. It may fall outside of the definition because it is generally recognized as safe for the intended use, or it may fall outside of the definition because under the conditions of use it is not reasonably likely to become a component or affect the characteristics of the food to which it is added, or, perhaps more correctly, the food which is exposed to it.

As might have been expected, there has been a tremendous demand for listing and publication of substances which are food additives in terms of our mother tongue, but not food additives in terms of the amendment. I say very naturally because one of the interesting phenomena of the attitude of many Americans about law is that all restricting statutes are a good thing except when they apply to oneself or to one's own business. We are all inclined to hope that when we ask questions about the application of the law we can receive an answer that, "This does not apply to you or your product." The problems of publication of white lists or exempt additives is extremely difficult if not insurmountable. This likelihood was not unforeseen so far as we are concerned.

It may be recalled that in at least one of the bills which was before the Congress there was a requirement for the Food and Drug Administration to estab-

lish and publish lists of all exemptions for whatever reason. We recognized the difficulties involved. Obviously an exemption requires the same specificity as a regulation. A statement of an exemption is nothing more than a regulation authorizing and legalizing the use of a substance under the terms and conditions set forth in the statement of exemption. A regulation is the same thing. A regulation may be arrived at on data supplied that are not generally available, whereas an exemption would be arrived at by a finding that it is not within the definition or that it is exempt by reason of prior sanction. But the effect is the same.

I daresay that those who expect that in the foreseeable future there will be lists which cover all known additives, either approving or disapproving them, are doomed to disappointment. The "conditions of use" clause is the significant and operative language. In an effort to approach the exemptions based upon a general recognition of safety, we have undertaken to publish a proposed partial list and distribute it in such form as to afford an opportunity for scientists qualified by training and experience to evaluate safety of foods to indicate whether or not such substances are recognized by them as safe. At this point I must emphasize that the recognition of safety involved here is not that of scientists or administrative officers of the Food and Drug Administration; it is a question of general recognition by qualified scientists. Such cannot be determined by a selected committee, and generally not by a small number of people. It is probably not difficult where much has been published following scientific investigations for an ex cathedra determination to be made that a given product under given conditions is generally regarded as safe. The difficulty arises when the literature does not abound with information and whatever is known as a result of scientific investigations is not generally known, or what is generally known is not from investigation but from usage.

We shall continue to give all the help we possibly can in determining what is generally recognized as safe by scientists qualified to evaluate the safety of foods, but we cannot promise any scheme that is wholly expedient and immediately effective, except possibly in those cases where the general recognition is so obvious as to obviate the question being asked. After all, it must be remembered that the question addressed to us is not "Do you recognize X substance as safe," but "Do a lot of other people who are qualified to have an opinion recognize X as safe?" We cannot speak for the other people unless we have some way of first hearing them speak for themselves.

I think that the Food Additives Amendment has created as much interest and as much activity on the part of those affected as might be reasonably expected. At times I have been disenchanted with the rate at which individual questions can be settled and I have not always been happy with the work required to settle some of the main guiding principles. I daresay that we will continue to conjure with some of the questions put to us for the next fifty years. I know that this was true with respect to the Food and Drug Act of 1906. My only regret at seeing that law superseded in 1938 by the Food, Drug, and Cosmetic Act was that there were so many intriguing questions under the Act of 1906 that had not been answered and now obviously never will be.

Many of the intriguing questions that have been put as broad general concepts cannot be answered in broad general terms. There has been a pressing demand for a categorical definition of the term "pharmacologically insignificant." Actually the search for this quantity of an additive has really been a search for an expression as to a safe or no-effect

limit. The two terms are mutually interchangeable when we are speaking in terms of allowable safe amounts by regulation, but the matter takes on a different color when spoken of in the context of an exemption that X quantity is so small that it could not be regarded as unsafe or, that is to say, having no pharmacological effect. Actually the no-effect limit or the no-effect amount of a substance has to be determined on some set of facts related to the particular circumstances of its use and its essential or inherent toxicity. The enunciation of broad rules to aid in the answers to the general recognition problem and in some measure to the limitation by regulation problem, is fraught with many difficulties. This has compelled us in all too many instances for the comfort of industry to say "Give us all the facts that you have and we will do our best to give you a specific answer." It may be that as we develop and evolve we can establish some eternal verities which will make it easier, but for the time being much of the decision making must be hewed out on an ad hoc and piece by piece basis.

There are two main areas which start out together, then separate, and then come together again. I refer to the fact that a substance which meets the other definitions of an additive and which becomes a component or affects the characteristics of a food by reason of its use is a food additive and requires a regulation regardless of whether it is intentionally or otherwise added to the food. The intentional or unintentional distinction arises and exists only because the manufacturer deliberately seeks the one and wishes he could avoid the other. The unintentional additive is the problem primarily of those who are concerned with packages, wrappers, and containers. It is true, however, that this includes just about everybody, since no one in the chain of production of container material can afford to be oblivious of the facts, if the result is the contamination of the food that requires a food additive regulation or which perchance cannot be used at all.

By far the greater amount of backing and filling and uncertainty as to where to take hold of the problem has existed in the container field. Many questions have been asked about the responsibility and liability of the various producing factors involved in getting containers on to the market containing the foods. Very naturally, each person involved has been hopeful that he could receive from the man back of him some magic piece of paper which would absolve him from whatever responsibility the law might otherwise impose upon him. Many of the containers start as trees or other forms of potential pulp. Some of them start as waste paper. These progress through the manufacturing processes and eventually become paper boxes containing food. Many different chemicals are used in converting organic materials into paper and cardboard, and merely compiling a list of these and looking at it from the standpoint of any of them becoming components of the food is disheartening.

We have sought to alleviate the unwarranted fears in the container industry and among container users to every extent consistent with the facts of life. We have emphasized that it is not that which goes into the package, but that which goes into the food that is the concern under this amendment. We have recognized the impracticability of tracing possible migration of packaging components into every food which may be used to fill containers. We have done our best to develop and recognize more or less standard methods for testing migrations. We have introduced the principle of simulated solvents and we have applied such ingenuity to the problem as we have been able to apply, always keeping in mind that the paramount question must be resolved before we can issue a

regulation or sanction an exemption. The paramount question is "Whatever happens under the circumstances of intended use, is the food product safe for human consumption?"

I am sure that we have been accused of arbitrariness and unreasonableness on more than one occasion. It is possible that there is some justification. On the other hand, I am well aware of the fact that we have foregone innumerable opportunities to appear unreasonable because it has been my task largely to resolve as best I could many of the perplexing questions. It has been and will be my view that when it can be resolved to retain the paramount consideration intact that the product be safe, there must always be a way to resolve the other questions incident thereto.

The rule of reason is inherent in this amendment as it is in all remedial law. It is our purpose to apply it with a rule of reason, but we cannot be sure that everyone affected will consider the same criteria in applying a rule of reason that we feel we must. We have been reasonably successful in establishing the necessary staff, both scientific and administrative, and we have no reason to believe that we will not be able to keep up with the flow of work unless we are treated to unanticipated deluges at bottleneck times such as, for example, around March the fifth of 1960.

We have been asked many questions about extensions of time to permit more complete study of additives which fall within the transition period, and we have done our best to fairly forecast what the decision may be. We cannot, of course, prejudge before all of the facts are before us.

It must always be borne in mind that extensions of time must be based upon, and will be based upon our being satisfied that such extension does not in any wise jeopardize the public health and welfare. I think we can fairly say that no general amnesty or extensions of time can be granted, because it is clearly the intention of the law that time extensions be granted in specific cases rather than as a general delaying of the effective date as provided by Congress. Certainly whenever a time extension is granted on a transition additive that extra time will be available to all and not merely to the person who institutes the petition for a time postponement.

In our experience to date we can conclude that considerable progress has been made and much remains to be done. Many applications for time extensions are likely to be received around the first of March of 1960, but by and large, after a considerable amount of querulous disbelief that such a thing could happen, and some running off in all directions, most of the individual members of industry affected and most industries as groups are now diligently applying themselves to the problems of securing the necessary clearances.

I do not believe that apprehensions about trade secrets now play any important part in manufacturers' concern over the amendment. I think that concern is more prevalent among container and other manufacturers who have had little or no experience with the Food and Drug Administration than among food manufacturers who regularly deal with us.

Some manufacturers, particularly of animal feeds, have been vastly concerned over the application of the so-called cancer provision. It is to be observed that a regulation cannot be issued to permit a food additive as an ingredient of a food if that food additive has been found to cause cancer in man or animals when ingested. This provision has no quantitative aspect, but is intended to prevent the authorization by regulation of the addition of any additive in any quantity if it has been found to cause cancer when ingested. The application of this clause of the law has inevitably created a situation which to some people seems highly

inequitable. For example, manufacturers of animal feeds who previously submitted their data and secured an effective new drug application which permits the inclusion of stilbestrol may continue to manufacture and distribute such products so long as there is no evidence that cancer will be caused by the consumption of them. However, because the substance has been found to cause cancer in man or other animals, in any situation where it is presently required that a food additive regulation be issued, the manufacturer of the product is precluded because the law does not permit the issuance of a regulation for an additive which is known to cause cancer in man or animals, and it does not permit the distribution of a product containing an additive unless it has a regulation to cover or a prior sanction.

This inequitable situation has created a great deal of difficulty and of course has not yet been solved so that all are on an equal footing. Results of this kind not infrequently obtain in legislation which contains anything like a grandfather clause because the essence of such clauses is the retention of privilege granted heretofore and the denial of the same privilege to those who apply after a cut-off date. This is what results from the cancer clause in the Food Additives Amendment. Much has been said about getting it changed. It would seem to me that it is most likely that the provisions of that clause will continue to remain in force until it is agreed among scientists that there is a no-effect level of a product which under some circumstances of ingestion may cause cancer in man or other animals, and that such no-effect level for man can be established by tests on lower animals. These accomplishments are beyond our capacities at this time.

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This paper was presented before a Joint Session of the Engineering and Sanitation and Food and Nutrition Sections of the American Public Health Association at the Eighty-Seventh Annual Meeting in Atlantic City, N. J., October 20, 1959.

3-A Standards for Farm Milk Tanks

The revised 3-A Sanitary Standards for Farm Milk Cooling and Holding Tanks was officially approved by the 3-A Sanitary Standards Committees on March 1, the revision to become effective on September 1, 1960. The Journal of Milk and Food Technology will publish the standards in the June, 1960, issue. Sponsoring organizations of 3-A Sanitary Standards are the International Association of Milk and Food Sanitarians, Dairy Industry Committee, and the Public Health Service.

This is a very useful review of what has been happening in the past few years in the chemical control of pests. All health workers who have to deal with problems involving such matters can get an overview here.

RECENT DEVELOPMENTS IN PESTICIDES

Herbert F. Schoof, Ph.D.

THE CHEMICAL CONTROL of insects entered a new era in 1945-1950 when the chlorinated hydrocarbon insecticides such as DDT, dieldrin, chlordane, and others first appeared. Unfortunately, the hope of eradicating public health pests soon dissipated when several species developed resistance to certain of these chemicals within a relatively short period. Since then, the situation has worsened with each succeeding year as the number of resistant species increased from two in 1946 to 16 in 1958;[1] the areas occupied by resistant populations expanded; and the number of compounds to which a given species was resistant increased. The acuteness of the problem is best exemplified by the detection of dieldrin-resistant populations of three species of malaria vectors in Central America and Mexico[2,3] in 1958. The critical aspect of this development was the resistance of Anopheles albimanus to both dieldrin and DDT in certain areas of El Salvador and Nicaragua. These data point up the fact that man's insect enemies are adapting to successful coexistence with pesticides almost as rapidly as new technics and toxicants are produced.

During the past five years, the organophosphorous compounds have received major attention by investigators because of the widespread resistance of insects to the chlorinated hydrocarbon insecticides. Early work with the former group of pesticides concerned compounds such as EPN and parathion which are extremely toxic to man as well as to the insect. Fortunately, the chemical industry now has produced new organophosphorous pesticides such as malathion and ronnel which have relatively low toxicity to humans as compared to EPN or parathion. The general range of toxicity of organophosphorous compounds based on studies with female rats[4] is given in Table 1.

In the field of house fly control, new developments occurred along the lines of poison baits and impregnated cords. The cord method has provided season-long house fly control in many areas with only a single installation at the rate of 30 linear feet of cord per 100 square feet of floor area.[5] Fly baits incorporate 0.5 to 2.0 per cent toxicant in a carrier together with a sweetening agent. Such baits are popular with farm operators because they have a spectacular immediate effect on fly population. However, the reduction in fly densities is temporary and repeated bait applications (three to four per week) must be made to insure continuous control. Bait stations can be used to minimize maintenance operations. A chicken-watering device filled with a liquid bait containing DDVP has been shown to give effec-

tive house fly reduction for five weeks without replenishment of the toxicant.[6]

In mosquito control, the occurrence of dieldrin-DDT resistance in certain anopheline populations stimulated investigation of the phosphorous insecticides for a possible substitute residual chemical, even though these toxicants usually are characterized by a short residual life. One of the findings is that malathion, an erratic toxicant in its residual action against house flies, is extremely effective for extended periods against adult anophelines.[7-9] In initial tests using animal-baited huts at Savannah, Ga., malathion suspensions at dosages of 100 and 200 mg/sq ft on wood gave highly effective kills of Anopheles quadrimaculatus for periods of five months.[7] Subsequent studies have shown that marked residual action against mosquitoes is not unusual for that compound, a dosage of 200 mg/sq ft providing 100 per cent kills as long as 28 months after the original treatment.

Since the surfaces and conditions normally encountered in subtropical areas vary considerably from those found in this country, it is necessary to evaluate promising insecticides in such areas before deciding upon their potential use in malaria eradication campaigns. Therefore, in 1959, studies were established in El Salvador in cooperation with the Pan American Sanitary Bureau, International Cooperation Administration, and the El Salvador Ministry of Health. Many of the dwellings are entirely built of thatch while others may have a thatch roof with adobe or bajareque* walls. In some cases, a single dwelling may have wall surfaces of several materials (e.g., paper, metal, cane, and thatch).

The results obtained in El Salvador indicate that dosages below 1 g/sq m (100 mg/sq ft) are inadequate for long-term effectiveness[10] as measured by a bioassay technic. At 100 and 200 mg/sq ft malathion gave effective kills of Anopheles albimanus for periods of 8-12 weeks. Another organophosphorous compound (Baytex) also required a dosage of 100 mg/sq ft to provide like mortalities for periods of 8-12 weeks. Of interest are the data obtained with DDT residues applied at 100 and 200 mg/sq ft against a DDT-resistant strain of A. albimanus. Both of these dosages gave similar low but consistent mortalities for extended periods.

In the United States, most treatments against adult mosquitoes are done with fog or mist applications. In recent years, there has been an increasing interest in the use of dusts for this same purpose. Comparative studies of the three methods against salt marsh mosquitoes (caged), held at various distances from a commercial space treatment machine, have shown that the dust applications gave less satisfactory kills than either the fog or mist applications on the same nights, even though the dosage applied as a dust was greater than that for either of the other (Table 2).[11] In other tests with fog and dust applications on different nights, great variability in effectiveness has been observed, some dust applications giving kills superior to fog applications at similar dosage levels. From these studies, it has become obvious that marked differences in relative effectiveness can be obtained with any one of the three methods, depending on

Table 1—LD-50 Oral and Dermal Dosages for Female Rats Expressed as mg/kg*

Toxicant	Oral	Dermal
Parathion	3.6	6.8
Diazinon	76.0	455.0
DDVP	56.0	75.0
Malathion	1,000.0	>4,444.0
Ronnel	2,630.0	—

* Excerpted from reference.[4]

* Mud on a framework of saplings.

Table 2—Malathion as a Fog, Dust, and Mist Application Against Caged Aedes taeniorhynchus

Treatment*	Dosage Lb/A.†	Per cent Mortality at Distance (Foot) 135	270	540	810
Fog	0.1	98	53	39	0
Mist	0.2	95	55	32	27
Dust	0.3	63	81	3	2

* Three replicates each on same night.
† Based on 300 foot swath.

wind and temperature condition prevailing at the time of treatment. Mist applications are highly effective but usually for limited distances, since there is a rather quick fallout of the larger size particles. From the over-all data fog and dust treatments are approximately the same in their effectiveness, but fog applications generally provided slightly higher kills. Operationally and psychologically, the latter technic is the method of choice.

The newest development for the control of adult mosquitoes is the residual fumigant technic.[12] Discovered accidentally in 1958, when a sealed bag of fly bait containing DDVP and malathion produced high kills of nearby mosquitoes in a test room, experiments have revealed that a residual type of vapor action can persist for extended periods (Table 3). A single container (A) with 11.4 grams of DDVP gave excellent results for six weeks against caged female Anopheles quadrimaculatus in a field hut (8′ x 8′ x 7′) with two open windows, whereas a dosage three times that great was highly effective for 10 weeks. In contrast the same amount of DDVP on a different carrier and without malathion was far less effective. In one test series designed to evaluate the effects of ventilation, a dosage of 14 grams of DDVP in a building (11′ x 12′ x 8′) gave eight weeks of complete mortality of A. quadrimaculatus; with eave ventilation twice that dosage was far less effective. However, in a building with both eave and window ventilation, an increase in dosage to 42 grams of DDVP provided mortalities similar to that achieved with 28 grams of DDVP and less ventilation.

The significance of this development is that a relatively small amount of insecticide can be used to free a room or hut of mosquitoes on a continuous basis without requiring the time, manpower, or equipment normally expended in applying a residual application. When the technic is refined to the point of being suitable for field usage, it may well supplant the residual spray operations (now the basis of malaria eradication campaigns) in many countries where the types of housing are conducive to effective use of a fumigant method.

Another development of significance is the use of vapors for aircraft disinsection. Studies in early 1959 showed that the dispersal of DDVP vapor into the ventilation system of an intercontinental aircraft for 30 minutes would yield mortalities of from 95 to 100 per cent of caged house flies distributed in various parts of the passenger cabin.[13] The dosages ranged from 0.1 to 0.3 microgram of toxicant per liter of air, i.e., only 0.5 to 1.0 milliliter of DDVP was required for aircraft of the DC-6 type.

Table 3—Per cent Kill of Caged Anopheles quadrimaculatus Exposed Residual Fumigants Overnight in Huts (8′ x 8′ x 7′)

Formulation*	Weeks 4	6	8	9	10	12
A†	91	100	55	5	–	–
3A	100	100	100	100	85	59
B‡	100	35	–	–	–	–
3B	100	100	24	–	–	–

* 11.4 g DDVP per container A or B.
† 0.5 per cent DDVP + 1.0 per cent malathion, commercial bait.
‡ 10 per cent DDVP on inert carrier.

In addition to methods utilizing pesticides, other technics such as male sterilization, and the use of parasitic fungi and bacteria, and silica aerogels are now receiving the attention of entomologists. The male sterilization technic was used successfully by the U. S. Department of Agriculture in eradicating screwworms from an island off the coast of Venezuela.[14] With this method male screwworm flies sterilized by irradiation of the pupae with Cobalt-60 are released to compete with normal males in the wild population. As the female screwworm fly mates only once, a predominance of sterilized over-fertile males eventually eliminates the breeding stock. Recent information from the U. S. Department of Agriculture indicates that a cooperative program by state and federal agricultural agencies in the southeastern United States and Florida, using this technic in 1959, has resulted in no screwworm flies being recovered in those areas since February, 1959.

Silica aerogels are sorptive dusts which remove the waxy protective layer of the insect integument resulting in the desiccation of the insects.[15] Successful roach control has been reported with such agents.

In concluding my comments, it would be amiss to omit mention of one technic found to be highly effective in the control of a resistant blow fly Chrysomyia putoria in the Belgian Congo. In Leopoldville, this species breeds extensively in the bored hole latrines commonly found in certain areas of the city. In 1952, health authorities began routine insecticidal treatments on a 12-day schedule to the 25,000 privies in the city. Since the species breeds only in human excrement, it obviously was faced with extinction unless resistance to the toxicant used was developed. The latter occurred, the insect coping successfully with the different insecticides applied during the period 1953-1957.[16] Confronted with this dilemma, the Health Department devised a type of rural "commode" which could be installed in each latrine and sealed around the edges with earthern fill. By teaching the natives to flush this apparatus daily, a water barrier was maintained in the device which blocked the entrance of adult flies into the latrine and at the same time prevented the emergence of newly developed flies. In addition to an effective reduction of blow fly densities, $80,000 was saved in one year in insecticide costs alone. This experience again stresses the fact that preventive control measures usually are the best and most economical means of overcoming our insect problems.

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The Ambulance as a Public Health Hazard

"The speeding ambulance, screaming and weaving through traffic with an accident victim, has been condemned by a joint medical-safety committee.

"In a report prepared by Dr. Oscar P. Hampton, Jr., and released at the recent National Safety Congress, the committee stated that 'speed is seldom if ever a factor in the preservation of a life, and speeding ambulances result in more additional traffic deaths than lives saved.'

"Surgeons on the committee emphasized that injuries are frequently made worse by fast driving and that the best patient care is a smooth ride. The committee recommended strict obedience to speed limits and traffic laws by ambulance drivers.

" 'Twenty-five per cent of those permanently disabled in traffic accidents would not be crippled with proper care and transportation after the accident,' said the committee spokesman, Dr. James B. Mason of the American College of Surgeons. 'That means 25,000 to 30,000 persons a year would escape the crutch or the wheel chair.'

"The report was made by the joint committee, composed of the American College of Surgeons, the American Association for the Surgery of Trauma and the National Safety Council, after a survey of 865 cities on their emergency care for the injured."

(From "The Myth of the Speeding Ambulance" in Traffic Safety, Jan., 1960, published by the National Safety Council.)

Here is a broad survey of recent activities and developments concerned with the labeling of dangerous substances intended for household use or hazardous to the health and safety of employees. Much of this activity is related to the prevention of accidental poisoning.

LABELING LEGISLATION—A SUMMARY REVIEW OF RECENT DEVELOPMENTS

Joseph E. Flanagan, Jr.

THE LABELING OF hazardous substances is a matter of serious concern to many groups and individuals in this country and abroad. Industrial trade associations, industry and a variety of governmental agencies at the federal, state and local levels have been and are involved. In addition to these, the International Labor Organization has had more than passing interest. Recent developments in the United States, principally the growth of poison control centers, have added emphasis to further needs for labeling legislation and have resulted in considerable education of the practicing physician and various medical societies on the subject.

As might be expected with this variety of interested groups, it has been very difficult to reconcile the many points of view and the objectives of the participants. Generally speaking, and largely through the efforts of the Manufacturing Chemists' Association, the Chemical Specialties Manufacturers Association, and the Public Health Service, labeling legislation which has been enacted over the past fifteen years in the United States has substantially followed the uniform principles of labeling suggested by the Manufacturing Chemists' Association. To this extent there has been introduced a favorable degree of uniformity in the many labeling requirements, and this has been a significant contribution to the acceptance of the legislation in terms of its enforceability and of compliance by industry. Without this uniformity the manufacturer could have been faced with many different requirements for labeling, many of which might have been impractical and some self-defeating.

Even with these good efforts, there are variations in existing legislation as well as in the administration of the laws themselves. Today the states of Connecticut, California, Colorado, Hawaii, Illinois, Indiana, Kansas, Massachusetts, Minnesota, New Jersey, New York, Oregon, and Texas and the City of New York have enacted legislation which embodies MCA principles of precautionary labeling. Administration is by departments of health, departments of agriculture, industrial commissions, and in at least one case jointly by a department of labor and industries and the department of public health. Some of the legislation has been drafted to protect the health and safety of employees, while some applies solely to the labeling of hazardous substances intended for household use. Most of the legislative language is broad in intent and definition,

but at least one state requires that a substance shall first be found to be harmful and then shall be labeled in accordance with specific rules and regulations. This is an example of the so-called "schedule" type of labeling: If a substance is not included on the schedule, there is no requirement to label it as a hazardous or harmful substance.

The "schedule" type of labeling seems to be on the way out. The fast pace of industry today makes difficult the effective amendment of such legislation to keep up with the wide variety and uses of materials which require labeling to minimize the hazards associated with misuse.

It is not possible here to describe or analyze existing labeling requirements because of the many variables involved and the necessary brevity of this report. A general review of the principles of labeling as enunciated by the MCA, however, is important. These principles are included in Manual L-1, Warning Labels, A Guide for the Preparation of Warning Labels for Hazardous Chemicals, prepared and published by the Manufacturing Chemists' Association, Inc. The success of this publication, popularly known as the LAPI Manual (Labeling and Precautionary Information) is attested to by the fact that since the first printing in 1945 it has been revised and published at least four times and is used universally wherever problems of labeling have arisen.

The general principles, as enunciated in Manual L-1 of the MCA, for the preparation of warning labels are:

1. Each chemical product presents a distinct problem and must be treated individually in the light of its own characteristics. Conclusions regarding the hazards of a product cannot safely be drawn either from the properties of the materials from which it is formed or by analogies based upon chemical structure.

Mixtures of two or more chemicals may have properties that vary in kind or degree from those of the individual components. Any warning label for mixtures should be based on the properties of the finished product.

Impurities may contribute hazardous properties and should not be overlooked.

2. All statements on warning labels should be brief, accurate, and expressed in simple, easily understood terms.

3. Precautionary labeling should be used only when and to the extent necessary. The language should be practical, not based alone upon the inherent properties of a product, but directed toward the avoidance of hazards resulting from such use, handling and storage as may reasonably be anticipated. The use of warning labels for relatively harmless products or the use of unnecessary words will develop a disregard for labels and defeat their purpose as surely as will failure to give adequate notice of hazards.

4. On labels for different products, uniformity in language to indicate the same hazards and same degree of hazard is most desirable in order to gain greater understanding through standardization.

5. The following subject matter should be considered for inclusion on a warning label:

A. Name of product
B. Signal word designating degree of hazard—Danger!, Warning!, or Caution!
C. Affirmative statement of hazards.
D. Precautionary measures covering actions to be followed or avoided.
E. Instructions in case of contact or exposure, where advisable. (Note: Under some laws antidotes are required when the word "Poison" is used.)

Instructions for the handling and storage of containers should also be considered for inclusion on the label. . . .

6. The inclusion of the word "Poison" and the skull and crossbones on a label should be limited to those cases where the product is a poison according to a definite toxicity standard or where such use is prescribed by law. When used, this legend should be in addition to the other label warnings and should not take the place of the signal words Danger!, Warning!, and Caution! which are designed to show the relative degree of hazard.

7. A nondescriptive code designation or trade name should not be used as the only identification of a hazardous chemical. If the complete chemical name is not shown, the label should clearly state the type of chemical, e.g., "corrosive acid," "lead compound."

8. Warning statements should be grouped together in a prominent location on the label and should be printed in easily legible type which is in contrast by typography, layout, or color with other printed matter on the label. The label should be affixed firmly to and in a conspicuous place on the container.

During the past year a number of states have considered precautionary labeling legislation. Among these were Connecticut, California, Indiana, New Jersey, New Mexico, Ohio, Oklahoma, and Washington. Without exception, where the legislation has been enacted it has substantially followed the uniform principles of labeling suggested by the MCA. According to the annual report of the MCA for 1959, the MCA has been represented at the hearings held in several of these states.

The efforts toward uniform labeling requirements have been pushed energetically and consistently by the MCA, and this association currently is active in furthering the adoption of a new law designed to supplant the long-outmoded Federal Caustic Poison Act, to be discussed later in this report.

Whereas early labeling legislation in some of the states was designed to protect industrial and other employees from the hazards associated with improperly labeled or unlabeled hazardous substances, a review of recently passed labeling legislation and of a number of bills en route through legislative channels reveals that the major effort today is to establish legislation for the labeling of hazardous substances intended or suitable for household use. For example, a new law, entitled "Uniform Hazardous Substances Act" (S. 911), concerned with hazards in the household was approved by the Illinois legislature during 1959, but another bill which would have covered both household hazards and hazardous substances designed for commercial and industrial use did not progress.

In Ohio during 1959 a new law (Senate Bill No. 440) was passed to govern the labeling of packages of hazardous substances intended or suitable for household use. It covers not only packages for use in the home but also packages for use in schools, hospitals, apartment and office buildings, hotels, restaurants and similar places and will be administered by the Department of Health of the state of Ohio. Once again, however, this legislation came as a substitute for another proposal which would have covered hazardous substances used in commercial and industrial establishments as well as in households.

In California, Assembly Bill No. 1908 became law in 1959. This bill added a chapter and amended certain sections of the Health and Safety Code, amended a section of the Agricultural Code, and amended two sections of the Business and Professions Code relating to labeling of containers of dangerous drugs, poisons and other hazardous substances. This legislation has a bearing on household hazards but was not confined to them in its specific language.

Colorado established a Hazardous Substances Law (S. 213) in 1959 for the protection of the public health in the state of Colorado. This act provides for the regulation of the labeling and distribution of packages of hazardous substances intended for household use.

During 1958 the state of Kentucky considered a bill for the labeling of hazardous substances intended for general home or household use. Vermont in 1959 considered a proposal to provide for the regulation of food, drugs, cosmetics, and hazardous substances. With respect to labeling, these proposals hinged upon the use of the term "misbranding." Our committee has no knowledge of the present state of either proposal.

Early in 1959, the state of Washington was considering an act "relating to the labeling of hazardous substances distributed and handled within this state." Again, we have no further information on this legislation.

In the states of Connecticut and Indiana, in addition to legislative requirements for labeling of hazardous substances intended for household use, the subject of registration of such substances

also has arisen. Both states took the position that advance registration of hazardous household products, with a fee of $10 per product, was necessary for reasonable administration of their hazardous substances acts. This is an excellent example of a requirement which always results in opposition on the part of manufacturers and distributors of such substances. The states, however, receive intelligence by this means and also funds to defray some of the expenses associated with the administration of the acts. Our committee is not aware of the fate of either proposal.

The trend toward more and more requirements in the states for the labeling of hazardous household substances has been stimulated by the increasing alertness of state health authorities to cases of the poisoning of children. More data are coming to light each year because of this increased awareness and because of the growth in the number of poison control centers throughout the United States. This movement has resulted in the establishment within the Public Health Service of a National Clearinghouse for Poison Control Centers. This unit receives and disseminates reports from and to local poison control centers. There is no question of the value of this activity. In addition to being a source of reliable information for physicians and others concerned with accident prevention, it will stimulate further research and educational efforts to decrease the occurrence of such accidents.

The state legislative activities have their counterpart in efforts at the federal level to improve labeling legislation. Industry representatives have been especially aware of this need for some time. Federal statutes and regulations affecting the labeling of chemical materials include the Federal Caustic Poison Act and regulations; the Federal Insecticide, Fungicide, and Rodenticide Act and regulations; the Federal Food, Drug, and Cosmetic Act and regulations; the Interstate Commerce Commission Regulations for Transportation of Explosives and Other Dangerous Articles, and others.

The Federal Caustic Poison Act was enacted in 1927. The act listed 12 chemical substances in specified concentrations, defining them as dangerous, caustic or corrosive. Several states followed by enacting caustic poison laws identical to the Federal Caustic Poison Act. Since then, the number of potentially dangerous chemical products manufactured for household use has multiplied many times and the protection afforded by these early laws has proportionately decreased year after year.

Early in 1959 the MCA and the Chemical Specialties Manufacturers Association (CSMA), in cooperation with other groups such as the American Petroleum Institute (API) and the Association of Soap and Glycerin Manufacturers, drafted a proposed model state law to regulate the labeling of hazardous substances intended for household use. The proposed model bill was discussed with federal and state officials, other industry groups and representatives of the American Medical Association's Committee on Toxicology.

This model bill has been introduced to Congress as S. 1283 and is under consideration at the present time, both in the Senate and in the House of Representatives. If adopted with or without amendments, it will replace the outmoded Federal Caustic Poison Act and will provide a much broader base for regulation and control of hazardous household substances than is available under the existing law. If the proposed legislation becomes law, it is reasonable to expect that it will be used as a model for similar legislation by states throughout the country. Again the important principle of uniformity will have been advanced appreciably.

In the opinion of the Food and Drug Administration, S. 1283 as presented to Congress was deficient in certain re-

spects. Senate hearings were held and at that time the commissioner of the Food and Drug Administration testified, making several suggestions for modification of the bill.

Two other influential groups are also active in the development of labeling legislation and regulations. They are the American Medical Association and the American Conference of Governmental Industrial Hygienists (ACGIH).

The Committee on Toxicology of the AMA has prepared several drafts of a model law which would encompass the labeling of all hazardous substances. These drafts have been given wide circulation and have been discussed by many groups. The AMA bill was introduced in Congress May 25, 1959, as H.R. 7352. No hearings have been held on this proposal.

The ACGIH, through its Committee on Standard Labeling Procedures, has also prepared several drafts of its "Guide to Rules and Regulations for the Labeling of Hazardous Materials." The latest draft is the result of several years of work by the committee and reflects many modifications resulting from discussions with members of the MCA's LAPI Committee and others interested in the project. In addition to providing for "the labeling of containers of chemical substances that may jeopardize the health and safety of those exposed to to such substances" regardless of place of use or exposure, the ACGIH measure even tackles the thorny problems of labeling radioactive materials and mixtures. The section on mixtures contains 11 subsections, one of which contains a listing of 21 chemicals which are said to be "hazardous because of their toxicity in concentrations of 1 per cent and below." This has the disadvantage of bringing back the old ineffective "schedule" type of specialized labeling objected to earlier. Another section contains point-size specifications for printing, a problem which has been found most difficult in other attempts at labeling legislation.

Occasionally a proposal is seen to introduce a system of labeling advocated by the International Labor Organization. This system includes the use of symbols for various hazards and may be quite useful in parts of the world where a relatively high level of illiteracy prevails among people handling hazardous materials. This approach has had scant attention in the United States, although it differs little from the use of the well-known skull and crossbones for poison or the familiar radial symbol for radioactive material commonly displayed on safety labels in industry and government.

In summary, the development of labeling legislation for hazardous materials is an active area in almost constant flux. Laws are being extended and improved. The present emphasis on labeling hazardous household substances has to some extent taken attention away from the equally important area of labeling industrial chemicals. However, continued efforts by the industrial trade associations may result in such wide adoption of good labeling practices that comparatively little legislation will be needed. Nevertheless, before this desirable result can be achieved, some way must be found to reach personnel of the many manufacturers, distributors, repackagers and sales outlets to whom MCA and CSMA are only unrecognized initials.

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This paper was presented before the Occupational Health Section of the American Public Health Association at the Eighty-Seventh Annual Meeting in Atlantic City, New Jersey, Monday, October 19, 1959.

What action is being taken to deal with air pollution? Here is a succinct picture of the legislative front, which should be of interest to anyone who breathes polluted air.

AIR POLLUTION LEGISLATION—A REVIEW OF CURRENT DEVELOPMENTS

Samuel M. Rogers, M.S.P.H.

IN THE FALL of 1954 the secretary of health, education, and welfare, at the request of President Eisenhower, appointed an ad hoc Interdepartmental Committee on Community Air Pollution, composed of representatives of the Departments of Defense, Agriculture, Commerce, Interior, the Atomic Energy Commission, and the National Science Foundation, in addition to the Department of Health. Dr. Leonard A. Scheele, then Surgeon General of the Public Health Service, was chairman of the committee. The committee recommended legislation authorizing a broad federal program of research and technical assistance in air pollution problems.

The President has recognized the serious nature of the air pollution problem on several occasions. In his "State of the Union" message in January, 1955, he called on Congress to take appropriate action against this menace. In his special health message, he stated:

> As a result of industrial growth and urban development, the atmosphere over some population centers may be approaching the limit of its ability to absorb air pollutants with safety to health. I am recommending an increased appropriation to the Public Health Service for studies seeking necessary scientific data and more effective methods of control.

The Report of the House Committee on Interstate and Foreign Commerce June 28, 1955 (S-928) stated, among other things:

> Commendable efforts are being made in many communities to isolate the causes of air contamination and to bring about control for protection of our people. However, the work under way at present is largely uncoordinated and in need of both acceleration and technical assistance. A solution of the problem is delayed by inadequate observations, insufficient exchange data, and limited know-how, facilities, and funds.

The committee concluded "that the Department of Health, Education, and Welfare can best coordinate efforts of federal agencies and cooperate with and aid other bodies, state and local, public and private, in formulating and carrying out research programs directed toward abatement of air pollution."

Federal Legislation

Bill S-928, providing for research and technical assistance relating to air pollution control, was enacted as Public Law 159 by the 84th Congress and approved by the President July 14, 1955. The duration of the act is for a period of five years. It should be noted that the act does not provide for the exercise of police power by the federal government and no provision in it invades the sovereignty of states, counties, or cities. There is no attempt to impose standards of purity.

In recognition of the need for extension of the Air Pollution Research and Technical Assistance Act, a number of

bills were introduced during the first session of the 86th Congress for that purpose as follows:

A. S-441, introduced by Senator Kuchel and cosponsored by Senators Engle and Clark; also companion Bills HR-3183 (Rep. McDonough), HR-3730 (Rep. Holifield), and HR-4466 (Rep. Shelley).

Explanation — The substantive provisions of these bills would make permanent the authorization for the Public Health Service to carry on the research and technical assistance program authorized under PL 84-159; the current limitation of the annual appropriation ($5,000,000 maximum) which could be submitted in the budget to Congress, or considered by the Congressional appropriations committees, would be eliminated; a new section would be added to the Act declaring the intent of Congress that federal departments and agencies take such action as may be practicable to prevent or abate air pollution caused by federal activities. (The latter provision is similar to that contained in Executive Order 10779, issued by the President August 20, 1958); and clarification of intent with regard to authorizing grants-in-aid for surveys and studies.

S-2556 (Senator Neuberger)

Explanation—This bill would extend indefinitely the provisions of the Federal Air Pollution Act (PL 159, 84th Congress) and remove the ceiling on authorized appropriations. It would also require, after research, the establishment of standards relating to motor vehicle exhaust and the development of a suitable device. An annual report would be required to the President and Congress. The bill further authorizes the secretary of health, education, and welfare to hold hearings and to secure abatement of air pollution affecting the public health and welfare of another state.

HR-2347 (Representative Lipscomb)

Explanation—This bill would amend PL 84-159 to extend the authorization for the program another five years, through fiscal year 1965.

HR-7476 (Representative Roberts)

Explanation—This bill would amend PL 84-159 to extend the authorization for the program another two years, through fiscal year 1962.

B. Bills to provide authorization for the rapid amortization of expenses for air pollution control equipment and facilities.

Explanation—A considerable number of identical or similar bills have been introduced into Congress for this purpose: HR-322 (Rep. Byrnes), HR-2409 (Rep. Lipscomb), HR-7566 (Rep. Miller), and HR-7654 (Rep. Oliver) and others. These bills would permit an industry, at its election, to take a deduction in its income tax return of the expenditure for air or water pollution control equipment and facilities amortized over a five-year period. This is a shorter, and therefore more liberal, provision for amortization for income tax purposes than the three methods which are currently permitted under the Internal Revenue Code of 1954 (straight-line method, declining-balance method, and sum of the years digits method).

C. Bills to provide for standards for automobile exhaust emissions and for federal regulation of such emissions.

Explanation—Two general types of bills in this category have been introduced:

1. HR-1297 (Rep. McDonough) would require the Surgeon General, within six months after its enactment, to prescribe and publish standards as to the amounts of specific substances considered safe from the standpoint of human health for a motor vehicle to discharge to the atmosphere. The manufacture, sale, importation or use of any motor vehicle discharging emissions in excess of the standards would be declared unlawful and violators would be subject to fine or imprisonment.

2. HR-1346 (Rep. Schenck) would require the Surgeon General to prescribe and publish similar standards for those substances on which sufficient scientific information is available to permit judgment as to the adverse effect on human health; such standards might be added to or revised from time to time. The use of any motor vehicle in interstate commerce which discharged substances in excess of the prescribed standards would be declared illegal, with violators subject to fine or imprisonment.

3. HR-8238 (Rep. Schenck), formerly HR-1346, this bill would require that the Surgeon General of the Public Health Service make a study, and report to the Congress within two years, of the amount and kinds of substances discharged in the exhausts of motor vehicles from the standpoint of human health.

D. Bills to provide for certain activities by other federal agencies relating to air pollu-

tion were introduced. Specifically the agencies concerned were the Weather Bureau and the National Bureau of Standards.

The Senate Committee on Public Works issued a favorable report on S-441 as amended in April, 1959. The amended version, among other things, would extend the duration of the Federal Air Pollution law for a period of four years and also increase the authorized appropriations to $7,500,000.

On August 20, 1959, the House Committee on Interstate and Foreign Commerce after hearings reported favorably HR-7476, which would authorize an extension of the Federal Air Pollution Act for an additional period of two years to June 30, 1962, without any increase in authorized appropriations. This bill was passed by the House on September 1, 1959. Conference between representatives of the appropriate committees of House and Senate became necessary to resolve the differences between S-441 as amended and HR-7476. On September 11, 1959, the conference report was accepted and passed by both Houses and sent to the President for signature. The essential provisions of the bill as passed provided for an extension of the Federal Air Pollution law for four years at an authorized appropriation rate of $5,000,000 for each fiscal year.

Hearings have been held by the Subcommittee on Health and Safety of the House Committee on Interstate and Foreign Commerce on those bills introduced into the House concerned with extending duration of the Air Pollution Act and on bills relating to automobile exhausts.

With regard to the matter of motor vehicle exhausts, the subcommittee considered HR-1346 and after deliberation reported to the entire committee a new bill, HR-8238, containing the amendments added to HR-1346. The committee, however, adopted an amendment in the nature of a substitute for the purpose of accelerating research into the problem. The bill was reported favorably on August 10, 1959, to the House and was passed by that body on August 17, 1959. It was referred on August 18, 1959, to the Senate Committee on Labor and Public Welfare.

State Legislation

During the 1959 sessions, bills of varying significance and interest related to air pollution were introduced into a number of state legislatures. In this report only especially significant bills enacted into law will be listed (resolutions adopted will not be included).

California

Chapter 200, Laws 1959:Senate Bill No. 117—It shall be the duty of the State Director of Public Health to determine by February 1, 1960, the maximum allowable standards of emissions of exhaust contaminants from motor vehicles which are compatible with the preservation of the public health including the prevention of irritation to the senses. [*Approved April 28, 1959*]

Chapter 698, Laws 1959:Assembly Bill No. 1631—An act relating to the Bay Area Air Pollution Control District. The provisions of this chapter do not prohibit the enactment or enforcement by any county or city of any local ordinance stricter than or identical to the provisions of this article and stricter than or identical to the rules and regulations adopted pursuant to this chapter, which local ordinance prohibits, regulates or controls air pollution.

24367.11. Whenever the hearing board finds that any person is in violation of any order, rule or regulation of the board, and that no variance is justified, and that reasonable time has been allowed for compliance, the hearing board shall certify such facts to the district attorney for the county in which the discharge originates, whereupon such

district attorney shall petition the superior court in and for the county for the issuance of an injunction restraining such person or persons from continuing any activity causing or threatening air pollution or nuisance. [*Approved May 28, 1959*]

Chapter 835, Laws 1959:Assembly Bill No. 1368, Section 426.1—The State Department of Public Health shall, before February 1, 1960, develop and publish standards for the quality of the air of this state. The standards shall be so developed as to reflect the relationship between the intensity and composition of air pollution and the health, illness, including irritation to the senses, and death of human beings, as well as damage to vegetation and interference with visibility. [*Approved June 8, 1959*]

Chapter 1915, Laws 1959:Senate Bill 611—This act adds a new chapter to the California Health and Safety Code which creates the San Joaquin Valley Air Pollution Control District. This district will consist of Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare Counties and part of Kern County. In general the provisions contained in this act are quite similar to that of the law establishing the Bay Area Air Pollution Control District.

Florida

House Bill No. 1951—An act relating to Sarasota County; providing for the regulation and correction of air pollution in all areas of Sarasota County lying outside the corporate limits of any municipality; authorizing any municipality in Sarasota County to adopt the provisions of this act; providing for the creation and adoption of an air pollution control code, proceedings therefor, and rules and regulations governing the construction, reconstruction, addition, alteration, repair or use of fuel and refuse-burning plants, processes, equipment and devices, and the creation or operation of wind-borne sources of air pollution and so forth. [*Law without approval June 17, 1959*]

Senate Bill No. 967—This act amends Florida air pollution control regulations and provides for a modification of the definition of air pollution to include the presence in the outdoor atmosphere of substances which are not already injurious but could reasonably be expected to become injurious to human, plant, or animal life.

In addition, the membership of the Florida Air Pollution Control Commission is changed to include representation from the citrus industry.

Clarification of the relationship of the commission to the State Board of Health is provided by the statement in the act (403.09c) that "the Commission shall be a separate Commission within the board and responsible directly to the board." [*Approved June 19, 1959*]

House Bill No. 1839—This act provides that the Board of County Commissioners of Brevard County function and act as the Brevard County Pollution Control Commission. The board is given authority to control air and water pollution; make rules and regulations; grant variances, etc. The act does not repeal, modify or impair any similar act relating to Brevard County but is rather supplemental. [*Law without approval June 19, 1959*]

Idaho

Senate Bill No. 2—An act relating to the control and suspension of air pollution; defining terms; creating an air pollution control commission in the state board of health; providing the number of members, the manner of their selection and their terms of office; providing for its functions and powers; authorizing the commission to make an intensive and comprehensive study of air pollution

problems; to organize county air pollution control divisions, to conduct and supervise research and educational programs, and to cooperate with existing agencies and facilities therefor; empowering the commission, after an extensive and comprehensive study and survey, to adopt codes, rules and regulations regarding air pollution, to initiate and receive complaints to hold hearings thereon, and to institute legal proceedings and secure injunctions; to receive money from any source; making the state board of health the policing agency; authorizing it to cooperate with the commission in research and educational programs, and to require the registration of persons engaged in certain operations; granting the board the right to enter and inspect buildings and places; to initiate complaints before the commission; authorizing the commission to hold hearings in connection therewith and to institute legal proceedings and secure injunctions; providing for procedure and appeals to the courts and providing penalties; and providing for severability. [*Approved March 13, 1959*]

Massachusetts

Senate Bill S-676 (Substitute for H-351)—This act amends the present legislation by simplifying the procedure to promulgate rules and regulations by the Department of Health by merely requiring filing of same with the secretary of state. [*Approved July 17, 1959*]

Oregon

Chapter 357, Laws 1959:House Bill No. 519—This act repeals those provisions of the Oregon Revised Statutes relating to the Oregon Air Pollution Control Authority and transfers the functions, duties and responsibilities to the State Sanitary Authority. [*Approved May 4, 1959*]

South Carolina

Act No. 171, Laws 1959:Senate Bill No. 18—An act to provide for the appointment of a committee to make a study of matters pertaining to the peaceful uses of atomic energy, the control of air and water pollution, and the use of radioactive materials.

The committee shall institute and pursue a study of the development and utilization of atomic energy and the sundry by-products of nuclear fission and fusion for peaceful purposes, as well as the control of air and water pollution, and shall report what legislation, if any, is necessary to encourage participation in the development and utilization of atomic energy, fissionable materials, radioactive matter and related substances for peaceful purposes to the maximum extent compatible with the security and the health and safety of the public, including but not limited to the necessity and desirability, if any, of measures for control of dangers to the public or amelioration of damages resulting therefrom.

The committee shall complete its study and make its report to the governor and the General Assembly not later than January 1, 1960. Upon making such a report, the committee shall forthwith be disbanded. [*Approved March 25, 1959*]

House Bill No. 1824—This resolution creates a committee of three members to investigate all problems relating to air pollution control, which committee shall report its findings and recommendations at the beginning of the next session of the General Assembly. [*Adopted May 22, 1959*]

Tennessee

Chapter 270, Public Laws 1959:House Bill No. 78—Authorizes the creation of an Air Pollution Control Service in the Department of Public Health, defines the authority of such service, and authorizes the employment of personnel to administer such service.

The State Department of Public Health is hereby authorized and em-

powered to create an Air Pollution Control Service to administer the provisions of this act. The commissioner is authorized to employ or appoint such personnel as are necessary for the enforcement of the provisions of this act and to expend such funds as are appropriated for this purpose through state legislative appropriation, federal grant-in-aid, or gifts or donations made to the Department specifically for this purpose.

Any local political subdivision shall be empowered to enter into a contract, compact or mutual agreement with another political subdivision for joint use of personnel, funds or other resources; for the control of air pollution within the jurisdiction of the contracting subdivisions. [*Approved March 20, 1959*]

In addition to considering these enactments, which are original or amendatory of existing legislation on air pollution, it would be desirable at this point to review briefly legislation existing prior to 1959.

On the state level there has long been a history of sporadic technical study in connection with specific air pollution problems, principally by state industrial hygiene organizations. Recently, however, there has been increasing interest in the organization of specific state air pollution programs explicitly authorized by statute. The first of these laws was passed in Oregon in 1951 and provided for the establishment of an Air Pollution Authority in the State Board of Health (amended in 1959). Similar comprehensive legislation in Massachusetts and New Jersey followed in 1954. A state air pollution technical assistance and research program was authorized in California in 1955, and in 1957 nine additional states (Nevada, Colorado, Delaware, Florida, Minnesota, New York, Ohio, Washington, and Hawaii) either enacted new or amended legislation to meet the air pollution problem.

There is considerable variation among these enactments which reflects the circumstances contributing to the type of legislation passed in the several states. The statutes enacted more recently usually embody one or more of three general approaches:

1. A broad enabling act permitting the establishment of air pollution control districts at local option
2. A research and technical assistance program
3. An air pollution control program, limited in some cases but concerned with the prevention and abatement of air pollution problems in all areas of the state.

In a number of states, for example, California, Washington, Nevada, Kentucky, and Florida, legislation has been enacted permitting the establishment of air pollution control districts. In these cases, although a prohibition may be included as a state standard, it is only effective when a district is activated. On the other hand, in certain states, among them New Jersey, Massachusetts, Oregon, Delaware, New York, and Hawaii, a limiting condition relating to air pollution is established, in terms of a definition, with authority to promulgate rules and regulations to achieve compliance with this condition. Then there are a number of states which authorize limited control of air pollution by cities or counties. Pennsylvania, Rhode Island, Missouri, Mississippi, and North Carolina are in this category. Enabling legislation has been enacted in Wisconsin, Nebraska, and South Carolina which establishes a minimum population in a city or county as a requisite for engaging in air pollution control activities. Minnesota and Colorado have amended the statutory responsibilities of their health departments to include certain aspects of air pollution. It should also be noted that the states of California and Ohio have also enacted legislation providing for technical assistance and research in air pollution.

It is apparent that no set pattern has

achieved general acceptance at this time. Probably the principal reason for this situation is the limited experience of governmental agencies in the field of air pollution control.

Local Legislation

Many estimates have been made as to the number of local jurisdictions which have enacted specific air pollution legislation. The accuracy of such estimates, however, is open to question. Furthermore, organizations representing local jurisdictions have not thus far collected such information.

In an effort to secure accurate information as it relates to the core cities of Standard Metropolitan Areas, we requested copies of specific air pollution legislation from those communities. Information thus far available indicates that of the more than 192 Standard Metropolitan Areas (1 Hawaii, 3 Puerto Rico) approximately 110 jurisdictions have such legislation. Efforts to extrapolate such relationships to smaller populations or communities would not necessarily reflect the actual situation.

Of special interest is the adoption in 1958 of a new air pollution ordinance by the City of Chicago, Illinois, and by Riverside and San Bernardino Counties, California. Also, consolidation of city and county air pollution control activities in the Pittsburgh, Pa., area into the County Health Department and the legislative adjustments necessitated by such consolidation will be of considerable interest.

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This paper was presented before the Occupational Health Section of the American Public Health Association at the Eighty-Seventh Annual Meeting in Atlantic City, New Jersey, October 19, 1959.

Malaya Colleagues Invite Visitors

The Health Office of the Kinta District, Ipoh, Perak, Malaya, through its administrative officer, W. Holmes, M.B., D.P.H., invites any member of the American Public Health Association to include a visit to that area. Dr. Holmes reports a district branch of the Society of Medical Officers of Health, the members of which would welcome visits especially since they "live and work in areas isolated from the aura and glamor of academic centers."

The authors of this study present evidence to show that a seroepidemiological pattern for influenza exists in a community. This pattern, in their opinion, can be used by public health agencies to study influenza.

LABORATORY ANALYSIS OF 1957-1958 INFLUENZA OUTBREAK IN NEW YORK CITY

III. FURTHER SEROEPIDEMIOLOGICAL STUDIES

Daniel Widelock, Ph.D., F.A.P.H.A., and Sarah Klein, M.P.H.

THE MORTALITY CURVE for pneumonia-influenza in New York City was above the expected rate during four periods following the introduction of Asian influenza into the city. These rises occurred during October, 1957, January and February, 1958, December, 1958-February, 1959, and April, 1959.

When the Asian virus was new to the community, it was possible to determine its spread by studying periodic increases in the percentage of population with Asian antibodies. In the two previous papers of this series[1,2] the October, 1957, and the January and March, 1958, increases in pneumonia-influenza mortality were correlated with outbreaks of Asian influenza: Thirty-five per cent of the population tested during October, 1957, and over 70 per cent by March, 1958, developed antibodies against the Asian virus.

With so large a percentage of the population having had experience with the Asian virus, would it be possible to correlate the pneumonia-influenza mortality statistics with future serologic findings on large numbers of single individual specimens? Evidence will be presented that such correlation was obtained during all four increases in the mortality curve. This was made possible by studying the influenza H.I. antibody, through epidemic and interepidemic periods, by age groups.

Data will be presented indicating that a seroepidemiological pattern developed when influenza virus appeared in a large city, and that this pattern followed the trend of the mortality data for pneumonia-influenza in New York City. In addition, this paper will present data indicating the age distribution of H.I. antibodies against other influenza viruses in New York City, and will demonstrate that a definite pattern exists with regard to the distribution of H.I. antibodies, against the other influenza viruses FM1, PR8, Swine, and B/Lee.

Method

The details of the method employed were described in the previous papers of this series.[1,2] Briefly, about 11,161 sera were collected and tested, periodically, without selection, from the Syphilis Serology Laboratory. The collection began on September 16, 1957, and continued at weekly intervals until May 30, 1958; at bimonthly intervals, until September 30, 1958; and at monthly in-

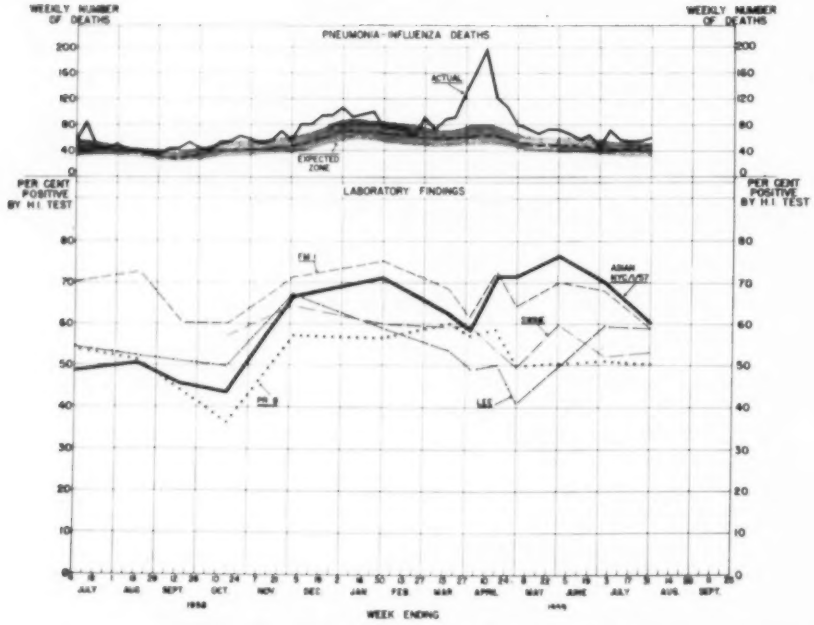

Figure 1—Influenza, New York City, 1958-1959—Correlation of Laboratory Findings with Pneumonia-Influenza Mortality

tervals (except where otherwise stated) until September, 1959. Sera of age groups 2-12 were obtained from the pediatric services of the New York Hospital.

The number of sera for each age group collected and tested during each period of this experiment may be seen in the appropriate charts of this paper. The sera were tested individually by the standard pattern hemagglutination-inhibition (H.I.) test[3] after treatment with potassium periodate and were heated at 56° C for 30 minutes. They were screen tested at a 1:8 (original) dilution with the NYC/1/57 (Asian) and 1:16 (original) dilution with the PR8 (A), FM1 (A prime), and B/Lee viruses.

The pneumonia-influenza mortality data were obtained from the Bureau of Records and Statistics of this department. Findings for significant periods are presented in the charts. However, data available for the intermediate periods are consistent with those discussed here.

Results

The first two, of the four increases in the pneumonia-influenza mortality which occurred during this study period, were previously recorded (Figure 1 of (2)). The second two increases may be seen in Figure 1 of this paper. These mortality curves are for all age groups combined. The serologic findings, for all the viruses studied, are similarly charted in both of these figures. Here

too, all age groups are combined. The mortality and the serology findings are analyzed by age groups in all the other figures of this paper.

In Figure 2, we note the proportion of each age group with H.I. Asian antibodies during the two year period following the introduction of Asian virus into the city. The difference in behavior between the 15-19-year group, and all other age groups is obvious. The younger age group shows a continuous rise in the percentage of individuals with Asian antibody. The older populations lose their antibodies between the increase in mortality periods (see arrows of Figure 2); these antibodies are once again demonstrated in a high proportion of individuals, coincidentally with the reappearance of an increase in pneumonia-influenza mortality.

A more detailed analysis of the results for each of the four above-normal mortality periods may be seen in the remainder of the figures of this paper.

First Increase in Pneumonia-Influenza Mortality

The Asian virus first appeared in New York City in August, 1957. A sharp rise in mortality occurred in all age groups between October 5 and 25, 1957.

Coincidentally with the mortality increase, the percentage of each age group of the population tested for Asian H.I. antibodies demonstrated a continuing rise. All age groups were involved in

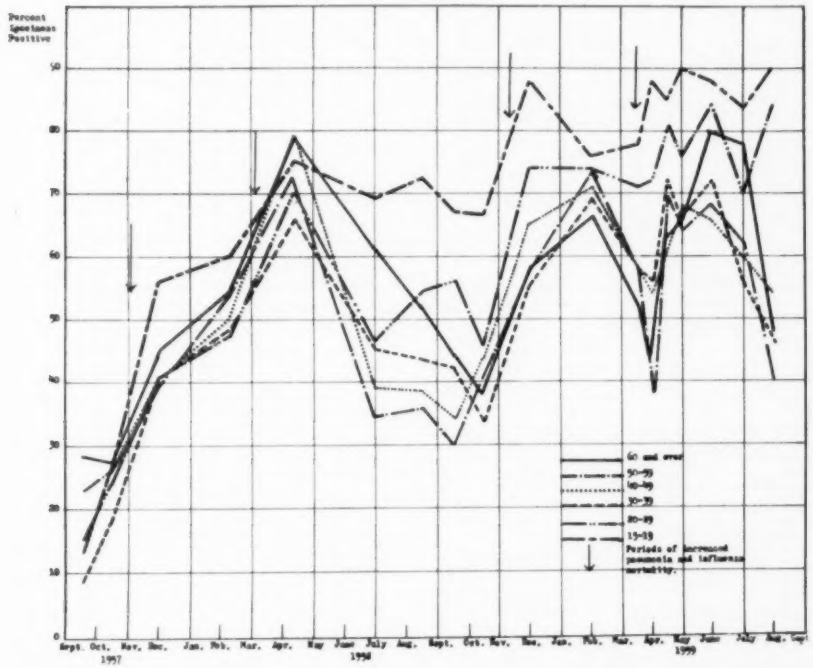

Figure 2—Per cent Specimens Positive for H.I. Antibodies Against Asian Influenza Virus—by Age Group, September, 1957-August, 1959, New York City

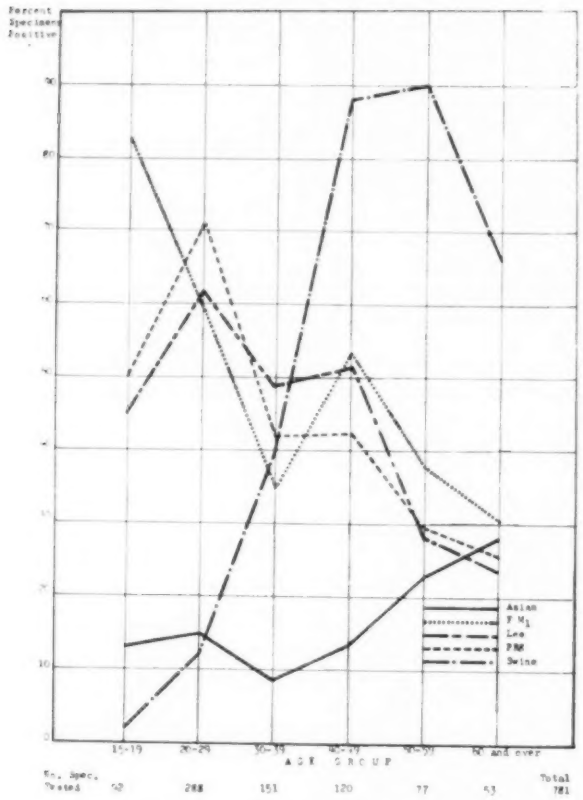

Figure 3—Per cent Specimens Positive for H.I. Antibodies Against Influenza Viruses Tested—by Age Group, September 1-October 7, 1957, New York City

this rise, thus forming the horizontal curve for Asian antibody as seen in Figures 3 and 4. The antibody curves representing the other viruses remained constant.

Figure 3 is especially interesting because it indicates the different antibody status of all age groups against the other viruses when the Asian virus first appeared in New York City. It will be noted that the curve for the swine virus is different than the curve for FM1, which in turn are different from the curves for PR8 and B/Lee. The significance of this difference will be discussed later in the paper.

Second Increase in Pneumonia-Influenza Mortality

This occurred, as was previously described[2] between January 10 and February 28, 1958. The antibody curves for Asian virus once again showed a steady horizontal rise in all ages. No significant changes were observed for the other

viruses (Figures 2 and 4). The gradual decline in the pneumonia death rates were described in a previous paper.[2]

Simultaneous with this decline in death rate we note a change in the character of the curve depicting the H.I. antibodies against the Asian virus (Figures 2 and 5). The slope of the curve changes from a horizontal to a decreasing one. The younger age groups retain their antibodies while the older age groups gradually lose theirs. We note about 68 per cent of the 15-19-year groups retain antibodies against the Asian virus as compared to 38 per cent of the 50 and over age groups. It was also interesting to compare the Asian and the swine curves. The peak for the Asian is in the 15-19-year group, while the peak for the swine is in the 40-60-year group.

Third Increase in Mortality

The mortality data is noted in Figure 1. This increase occurred between November, 1958, and March, 1959. Only

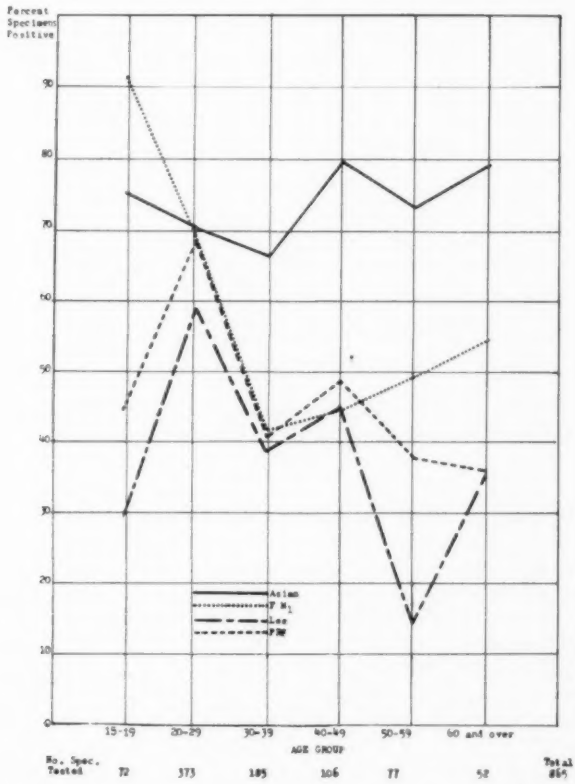

Figure 4—Per cent Specimens Positive for H.I. Antibodies Against Influenza Viruses Tested—by Age Group, March 12-May 30, 1958, New York City

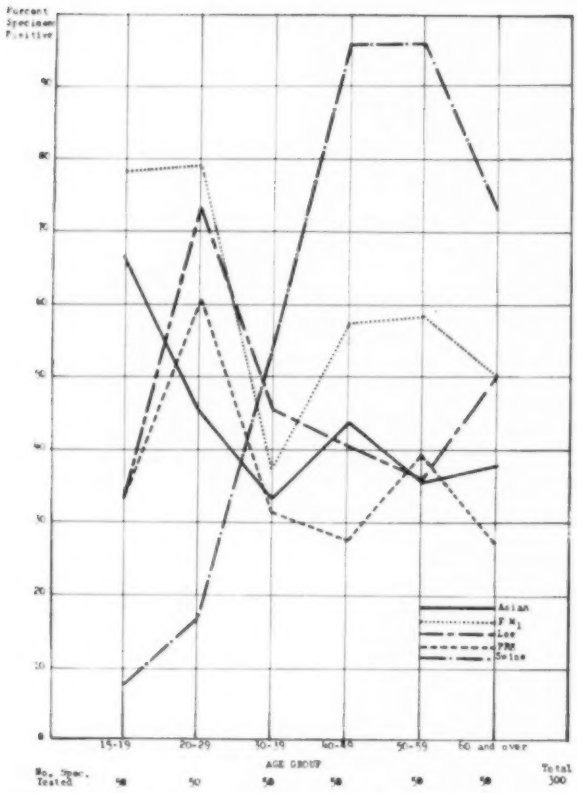

Figure 5—Per cent Specimens Positive for H.I. Antibodies Against Influenza Viruses Tested—by Age Group, October, 1958, New York City

the older age groups seemed to have been involved. During this period, between November, 1958, and February, 1959, the Asian curve once again began to show activity (Figure 6). Whereas, the slope of the Asian curve was decreasing during October, 1958, it gradually became horizontal, at a higher level, between November, 1958, and February, 1959.

The older age groups once again lost their antibodies against the Asian virus, and the decreasing slope for the Asian virus once again appeared (see Figure 7).

Fourth Increase in Mortality

This may be seen in Figure 1. It occurred between March 28 and April 3, 1959. This increase involved the older age groups primarily. The death rate in the 65-year age group was more than 600 per 100,000 population, which represents a very sharp rise. Once again the curve for the Asian antibodies showed evidence of increase in the older population. A comparison of the curve for April 15 and 20 (Figure 8) with that of April 1 (Figure 7) will indicate the change from the decreasing slope of

April 1, to the horizontal line of April 15. This was followed once again by a gradual decrease in the percentage of the population of the older age groups with H.I. antibodies against the Asian virus, until by August, 1959, the slope of the Asian curve once more decreased (Figure 9).

Examining acute and convalescent specimens for rises in Asian antibodies, as well as isolation of Asian influenza virus in New York City, corroborated all serologic increases in the curves in this paper as to the presence of Asian virus in New York City.

It was of interest to note that Asian virus was isolated in New York City during the following months: August, 1957, September, 1957, October, 1957, November, 1957, December, 1957, January, 1958, February, 1958, March, 1959, April, 1959. The only months of the calendar year not represented were May, June, and July.

Discussion

The introduction of a new virus, the Asian influenza virus, into a large city with a population of over eight million

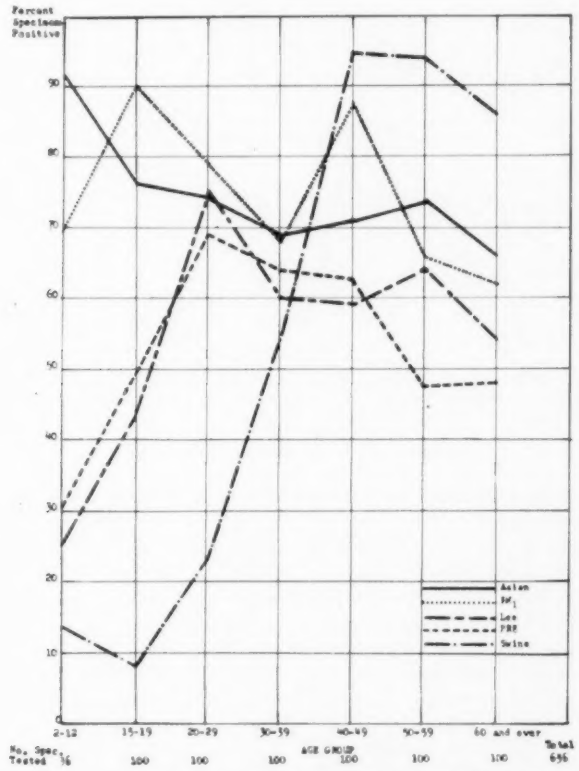

Figure 6—Per cent Specimens Positive for H.I. Antibodies Against Influenza Viruses Tested—by Age Group, January and February, 1959, New York City

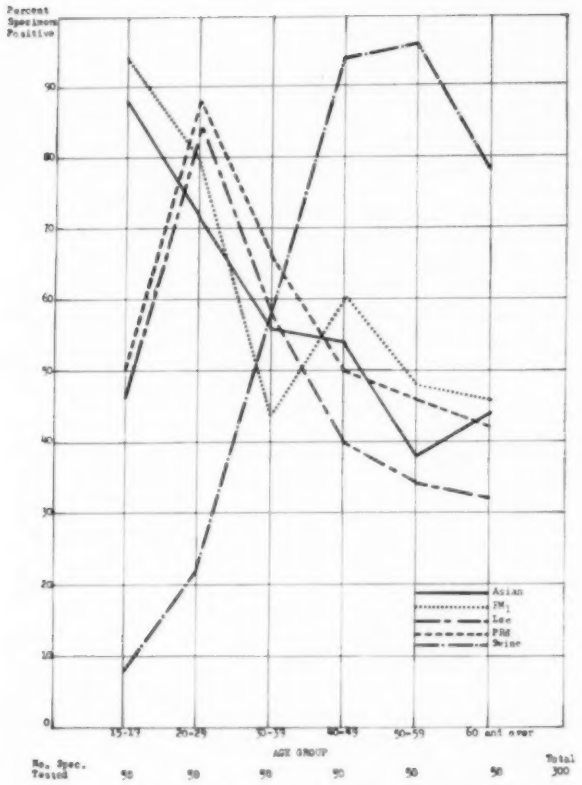

Figure 7—Per cent Specimens Positive for H.I. Antibodies Against Influenza Viruses Tested—by Age Group, April 1 and 2, 1959, New York City

people afforded an excellent opportunity for a seroepidemiological study of the spread of the virus. This was a particularly unique opportunity, since the Asian virus contained antigen for which most of the population had no antibodies. It was felt that by studying the H.I. antibodies in single serum specimens of large samples of the population, it would be possible to study the dissemination of the virus in the city. Preliminary reports of the findings were reported in the previous two papers of this series. It is now possible to summarize the results of the findings, covering the two years since the first appearance of the Asian virus into New York City, during which time four above-normal mortality periods were experienced.

The virus first appeared in New York City in August, 1957.[1] At the time of its appearance, about 80 per cent of the 15-19-year-old group had minimal H.I. antibodies against the FM1; about 90 per cent of the 40-60-year group had antibodies against swine; and about 70 per cent of the 20-29-year group had antibodies against PR8.

Regardless of the previous influenza experience, all the age groups were approximately equally infected by the Asian virus, as evidenced by the appearance of the Asian (A2) antibodies. At the end of the first mortality wave in October, 1957, about 40 per cent of each group (50 per cent for the 15-19-year group) showed evidence of infection by the Asian virus.

A quiescent period between the first and second waves lasted from October 21, 1957, to January 10, 1958—less than three months. This was followed by the second increase in both mortality and the antibody curves, raising the antibody level to about 65 per cent to 75 per cent for each age group.

The second mortality wave was followed by a gradual return to normalcy. It was at this time that the Asian antibody curve assumed a characteristic which repeated itself after the third and fourth wave. From June through October, 1958, a significant proportion of the older age groups lost their H.I. anti-

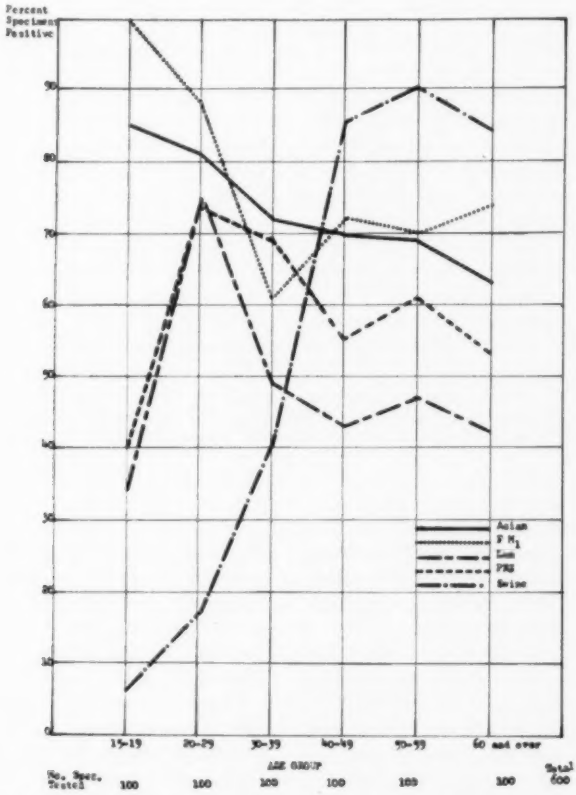

Figure 8—Per cent Specimens Positive for H.I. Antibodies Against Influenza Viruses Tested—by Age Group, April 15 and 20, 1959, New York City

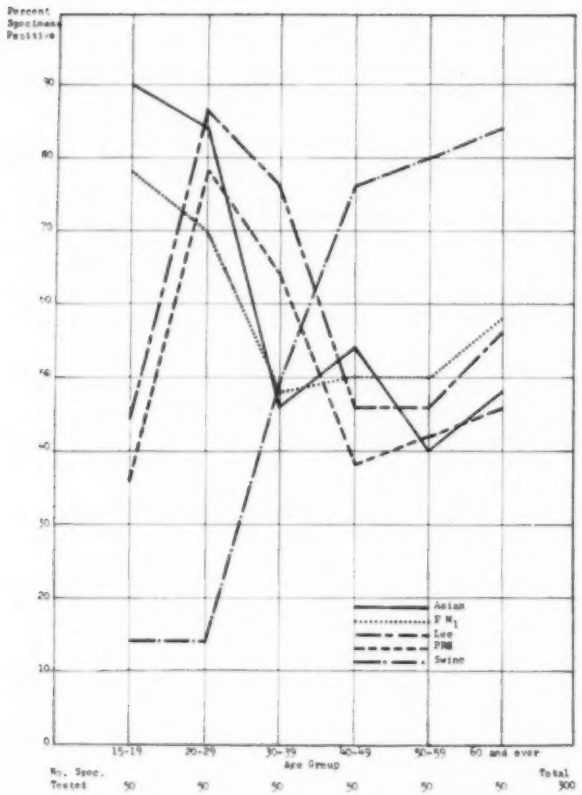

Figure 9—Per cent Specimens Positive for H.I. Antibodies Against Influenza Viruses Tested—by Age Group, August, 1959, New York City

bodies against the Asian virus. The younger age groups retained their Asian virus antibodies. The Asian antibody slope changed from the previous horizontal to a decreasing one.

This was followed by the third increase in mortality which appeared at the end of 1958 and the beginning of 1959—about 10 months after the second wave was completed. Deaths occurred primarily in the age groups 45 and over. Once again there was a corresponding rise in the Asian antibody curve. This rise occurred in the older age groups equalizing the proportion of positive specimens for all age groups. This produced a horizontal curve once more. This time approximately 70 per cent of each age group from 15 to over 60 showed the presence of H.I. antibodies against the Asian virus.

Once again the older age groups began to lose their H.I. antibodies against the Asian virus. This resulted in the reappearance of the decreasing slope for the curve. The proportion of positive specimens for the 15-19-year group was at about the 85 per cent level and that

for the 50 and over age groups decreased to about 40 per cent.

During the six-day period between March 28 and April 3, 1959, there was a fourth increase in the respiratory death rate. This increase was as high as 600 per 100,000 population of the 65 and over age group, as compared with a low of about 150. The 45-64-year age group had a death rate of 100 per 100,000 as compared with a low of about 30 per 100,000. Once again the serology pattern repeated itself. The older age group showed an increase in H.I. antibodies, producing the horizontal curve. This was then followed by a loss in antibodies in the older age group producing the decreasing slope.

Thus a close association appears to be established between serological and mortality data. This correlation was evident during four increases in mortality. Added significance is the fact that at each period when the serology curve indicated the presence of Asian virus in a community, Asian virus was actually isolated. In addition, at each time there was other evidence of the presence of Asian virus in the city. This consisted of testing acute and convalescent specimens for rise in titers against the Asian as well as the other influenza viruses. In each of the four periods evidence was produced that rises in titers occurred primarily against the Asian virus rather than against any of the other viruses.

In summation, it may therefore be suggested that some of the respiratory deaths, especially in the older age groups, were accelerated by the presence of the Asian virus, in addition to any other clinical factors which may have existed in those individuals.

The data is at least suggestive that a public health laboratory, studying serologically representative samples of each age group in its community, may be able to explain some of the increases in respiratory deaths. Further experimental work, such as studying the effect of vaccination of older age groups on the respiratory mortality data is indicated.

An examination of the serologic data of all the viruses studied will reveal that each virus had its own characteristic curve. The peak of each curve occurs at a different age group. Thus the peak for the swine influenza appears in the 40-60-year group. These individuals were children when the swine virus first appeared in 1918-1919. Very few of the younger population have antibodies against the swine virus. Similarly, the PR8 peak occurs in the 20-29-year group (virus isolated in 1933), the FM1 peak occurs in the 15-19-year group (virus isolated in 1947), and the Asian virus peak occurred in the under 15-year group (isolated 1957). The curves for each virus show a gradual decline from the peak in direct relationship to increase in age. This data are consistent with the findings of Davenport and his associates[4] as well as others.[5]

Influenza antibodies, developed during childhood, tend to be retained throughout life of the individual. This may be recognized by studying the peaks of each of the influenza curves. The peak for the swine curve occurs in the 40-60-year group, as previously mentioned; and as was indicated these individuals were children when the swine influenza was first isolated. The peaks for the other viruses similarly occur at these age groups which coincide their childhood years with the initial isolation of each of the viruses. If we were to shift to the right the FM1, PR8, and Asian curves of an interepidemic period, we would form a curve similarly to the swine curve. This would occur, if we realize that the older age groups gradually die out, and fewer and fewer of the younger people would develop antibodies against the older strains. The new curve for each virus would finally simulate the present swine curve.

Thus it would appear that all the in-

fluenza viruses tested by us behaved similarly.

In passing, it is of interest to note that Asian influenza virus was isolated in each month of the calendar year except May, June, and July. This would strengthen the argument that the retention of influenza antibodies throughout life is aided by subclinical infections by the virus.

Summary

1. Over 11,000 specimens obtained from the Syphilis Serology Laboratory of the New York City Department of Health were studied for the presence of Asian antibodies, FM1, PR8, Swine, and B/Lee. The sera were collected at stated intervals from August, 1957, through August, 1959. They were divided into age groups, ranging from 15 to over 60 years of age. In addition, a small sample of 2-12-year children were collected from a pediatric service. Serologic data were correlated with pneumonia-influenza mortalities statistics.

2. Four times during the two-year period of this study, the pneumonia-influenza mortality increased above the expected rate.

3. The serologic data and pneumonia-influenza mortality data had similar trends. An increase in the percentage of individuals with H.I. antibodies against Asian virus coincided with an increase in the mortality data.

4. A definite seroepidemiological pattern appears to exist when a new influenza virus first appears in the community. All age groups are first equally infected. The younger age groups retain the antibodies, the older age groups lose theirs. When the virus reappears, the older age groups once again temporarily develop antibodies. Thus by studying the percentage of various age groups with H.I. antibodies the presence or absence of the influenza virus in a community may be detected.

5. While all age groups were involved in the mortality statistics during the first and second waves, only the older age groups were involved during the third and fourth mortality increases. This agrees with the serological findings.

6. The significance of the serologic curves for each of the viruses are discussed.

7. It is concluded that a seroepidemiological pattern for influenza exists. This pattern may be used by public health agencies to study influenza in a community.

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In 1958, Insurance Commissioner Smith of Pennsylvania in an adjudication concerning Blue Cross rate increases pointed out the community interest in nonprofit prepayment plans and provided for regulatory measures concerning hospital costs and utilization. The issues involved are lucidly presented in this paper.

A GOVERNMENT LAWYER LOOKS AT HEALTH PROTECTION AND HOSPITAL INCOME

Edward L. Springer, LL.B.

I AM NOT A SPECIALIST in the general field of hospital care. In fact, my first introduction to this subject occurred approximately nine months ago, when the Insurance Department of the Commonwealth of Pennsylvania commenced public hearings upon requests made by three Blue Cross Plans in Pennsylvania for subscriber-rate increases.

It is said that a complete stranger to a subject sometimes perceives areas that can be substantially changed for the better, which might be overlooked by specialists who over the years have grown accustomed to conditions as they are. Whether this be true or not, and I doubt that it is true in this case, I at least bring to this problem a layman's point of view.

The Blue Cross adjudication by Insurance Commissioner Francis R. Smith evoked considerable interest throughout the country. He has been reliably informed that several hundred thousand copies of it were distributed to hospital people, doctors, and Blue Cross personnel in all parts of the United States. Such interest might indicate that the problems involved in the relationship between Blue Cross and hospitals are generally similar throughout the country.

It is important, however, to recognize that the commissioner's adjudication dealt specifically with Blue Cross-hospital relationships as they exist in Pennsylvania. Therefore, the philosophy of the commissioner's adjudication is derived from express statutes in effect in Pennsylvania. One such statute is the Nonprofit Corporation Law, amended to allow for the creation of the Blue Cross Plans. Another such statute is the Nonprofit Hospital Plan Act, which provides for the regulation of Blue Cross Plans by the Insurance Department.

The commissioner in his adjudication stated that the Legislature of Pennsylvania established as the public policy of that state the principle that the great individual financial burden for hospital care may be proportionately spread over the members of the whole community. The legislature authorized the creation of Blue Cross Plans and, in order to encourage their growth, granted certain tax and financial advantages to them. The legislature, however, went further than merely permitting their creation;

it imposed upon the Insurance Department certain express duties designed to assure the continuing functioning of such plans in a manner that would be in the public interest.

By enacting the Nonprofit Hospital Plan Act, the legislature gave to the Insurance Department authority to approve or disapprove the rates charged subscribers, all rates of payments made by such plans to hospitals, all acquisition costs in soliciting subscribers, the reserves to be maintained by such plans, and any and all contracts entered into with any hospital.

One significant fact will be immediately noted. The Legislature of Pennsylvania subjected Nonprofit Blue Cross Corporations to a far greater degree of state supervision than applies to the usual nonprofit corporation. Clearly then, the public policy of Pennsylvania is to allow the creation of nonprofit hospital service plans which shall be operated in a manner which will best serve the interests of the whole community.

It was apparent to the insurance commissioner that, under the foregoing laws, a Blue Cross Plan was not to function as another insurance company; if such were its purpose, it would have no place in the family of nonprofit corporations; if such a plan were to serve only a part of the community, it would not be serving the general public policy of the state.

Commissioner Smith's adjudication is, therefore, based upon the primary premise that the Blue Cross Plans are intended to function upon a community basis. This premise does not imply that all persons in the community be enrolled in Blue Cross, but it does imply that the underwriting policies followed by Blue Cross Plans should not unwarrantedly favor one part of the community over another.

This basic principle carried to its ultimate conclusion means that Blue Cross Plans should pursue policies which make available Blue Cross benefits to citizens in all age groups, including those age groups most in need of medical care and least able to pay for it.

The evidence and testimony produced at the Blue Cross hearings in Pennsylvania suggested very strongly that the public value of Blue Cross as a general community program was being threatened from two directions. It was being threatened by unfair competition from certain commercial insurers, and it was also being threatened by the steadily spiraling increases in hospital costs and hospital utilization.

As to the first threat, credible evidence came to the attention of the Insurance Department that certain commercial insurers offered accident and health insurance to generally healthy groups at a monetary loss in order to sell to such groups life insurance upon which a profit could be made. Such a practice, if it should exist on any substantial scale, could do irreparable injury to the community purpose of the Blue Cross Plans. Its effect would be to take away from Blue Cross many of its more healthy subscribers, while leaving with it those who, because of age or other circumstances, require the greatest amounts of hospital attention. By thus reducing the base over which Blue Cross costs can be spread, the rates charged subscribers could become prohibitive. In other words, as a practical proposition, Blue Cross needs many healthy enrollees for it to offer hospital service to the least healthy at reasonable costs.

It may appear at first impression that the general public is not likely to suffer from the practice of commercial insurers in offering accident and health protection at less than cost. In the long run, however, the general public can be injured. It must be noted at this point that my comments should be in no manner interpreted as a general criticism of the activities of commercial insurers in providing accident and health protection. Millions of Americans are

insured with commercial companies offering benefits commensurate with the premiums paid. Through such insurance programs, millions of Americans are benefiting. However, since insurance companies are business corporations, they have generally been required to follow policies which in terms of insurance are good business policies but in terms of meeting the general public's continuing need for hospital care are less than satisfactory.

A recent study by the Insurance Department of the State of New York, entitled "Voluntary Health Insurance and the Senior Citizen," throws considerable light upon the present inadequacy of commercial insurance as a means of meeting the medical and hospital needs of our older citizens. This study shows that in the year 1956 only 22 to 23 per cent of the commercial insurance policies written on a group basis in New York, covering hospital, surgical, and general medical expenses, contained a right in the insureds to convert the policy at the termination of the employment period or at retirement. In other words, approximately 78 per cent of the persons relying solely upon these group insurance policies would have no insurance protection against sickness after leaving their jobs. Of greater importance, where conversion upon retirement or termination of employment is permitted, it is generally at a substantially higher premium rate.

This same report showed that on a nationwide basis, only 30 per cent of group contracts issued by commercial insurers in 1956, covering hospital expense, provide for the continuation of such coverage at retirement. This New York report further showed that nearly 99 per cent of all individual health insurance policies covering New York citizens are cancelable, and that 47 per cent of all cancellations are made because of the deterioration of the health of the insureds.

Considerable progress has been made in the last six years by commercial insurers in continuing coverage after retirement age. As evidenced by the report of the New York Insurance Department, approximately 65 per cent of insured persons in the State of New York, with continuation of insurance benefits at retirement, have received this benefit during the five-year period from 1952 to 1956.

The findings of the New York Insurance Department establish quite conclusively that as of now (1958) the business practices of commercial insurers in the health field fall considerably short of solving the financial problem of our older citizens arising from failing health. As I have said, these practices are proper business practices reflecting the basic fact that commercial insurance companies are not eleemosynary institutions, but are business organizations that must function on sound business principles.

The Blue Cross Plans in New York and also in Pennsylvania generally operate on the principle that one of their objects is to provide continuing coverage for older citizens. While is is true that most of these plans will not initially enroll persons who have attained the age of 65, except in groups, they universally provide for the continuation of coverage of all existing enrollees indefinitely.

These facts aid in understanding why the insurance commissioner of Pennsylvania in his adjudication sought to protect Blue Cross Plans from what he regarded to be unfair competition from commercial insurers which would divert from Blue Cross its healthier subscribers.

The Blue Cross hearings in Pennsylvania suggested another unfortunate consequence that can result from unfair competition from commercial insurers. In order to combat such competition, Blue Cross Plans themselves might tend to become selective in enrolling their members. It was the view of Commissioner Smith that Blue Cross can best achieve

its community purpose by equitably spreading the costs of hospital care over the greatest number of enrollees in all age groups; this object can be largely nullified where Blue Cross Plans follow the practice of business corporations in giving selected rates to selected risks.

The over-all objective of lessening the individual financial burden of medical care through insurance or prepayment is of such great dimensions that there is room and a need for both nonprofit hospital and medical plans and commercial insurers. The New York Insurance Department report shows that in 1955 there were three billion dollars in personal expenditures for hospital care in the United States, and that insurance companies and nonprofit plans covered little more than one-half of this cost.

If the spiraling increase in hospital costs and hospital inpatient utilization can be lessened, or even if future hospital costs and utilization could be predicted with more certainty, commercial insurance companies, consistent with good business practices, would be able to progress more rapidly in providing continuing benefits after retirement age.

An ultimate objective which commercial insurers might seek in this regard is a group policy contract which will provide for conversion at retirement or termination of employment without additional evidence of insurability, providing substantially the same benefits as indicated in the group policy and at a level premium rate not in excess of the individual rate paid under the group contract. The New York Insurance Department has recommended that such policy provisions be mandatory in New York. If some predictable stability could be obtained in future hospital costs, or if the sources of hospital revenue should be reallocated in the manner in which I shall discuss hereafter, insurance companies should be able to offer such insurance programs on a sound actuarial basis and at costs that many more citizens could really afford to pay.

The insurance industry might also consider working toward insurance programs for individuals, enabling such persons not qualified for group insurance to obtain individual policies at a level premium rate, which are guaranteed to be renewable. The New York Department has also recommended that such policy provisions be mandatory in the State of New York. To whatever extent it is feasible, it would appear to be desirable for both insurance companies and Blue Cross Plans to spread premium rates for individual contracts over the greatest number of persons, thereby leveling out such rates to the maximum extent.

With the exception of New York, I understand that State Insurance Departments have very little if any regulatory control over accident and health insurance rates. In view of this fact, any basic changes in present commercial insurance underwriting practices in the accident and health field as a practical matter must come from insurance companies themselves. In this regard, it will be noted in Commissioner Smith's adjudication that the attorney general of Pennsylvania has held that the Pennsylvania Insurance Department has certain rate regulatory powers in the field of accident and health insurance.

The second threat to the community purpose of Blue Cross recognized by the insurance commissioner is increasing hospital costs and hospital inpatient utilization. In his adjudication, he set out specific actions to be taken by the Blue Cross Plans as a means of bringing about more efficient hospital operation and removing unnecessary utilization of Blue Cross benefits. I will not devote much time to discussing these specific recommendations, as they are contained in the commissioner's adjudication. These recommendations generally are that the Blue Cross Plans work cooperatively with hospitals and medical so-

cieties in an effort to bring down certain hospital costs and eliminate excessive utilization. It was recommended, for example, that hospitals be encouraged to adopt uniform accounting methods and standards, utilize joint purchasing practices, share specialized equipment, and use their professional and institutional personnel in the most effective manner.

Regarding excessive utilization of hospital facilities, the commissioner recommended that hospitals served by Blue Cross be urged to adopt the beneficial features of a plan inaugurated by one Pennsylvania hospital which appeared to reduce substantially unnecessary utilization of inpatient hospital facilities. The commissioner recommended that the question of hospital utilization be further studied on a cooperative basis by all interested parties, and that the aid of the medical societies be solicited in removing any existing abuses. It was believed desirable to obtain the assistance of the medical societies, since doctors in the final analysis usually determine who shall be hospitalized and how long hospitalization shall continue.

It is difficult to say what will finally be accomplished in Pennsylvania as a result of the adjudication, but it can be said that real progress appears to be possible. For example, The Medical Society of the State of Pennsylvania went on record recommending that every hospital be encouraged to establish an admissions committee.

The Associated Hospital Service of Philadelphia, with the support of the Philadelphia County Medical Society, invited a group of distinguished doctors from the greater Philadelphia area to act as review board in analyzing hospital cases to determine whether Blue Cross benefits are being abused. This board will consist of seven groups of five doctors each, and each group will review the medical records of Blue Cross subscribers hospitalized under their Blue Cross contracts. These doctors agreed to devote the necessary time at reasonable rates of pay to study hospital cases on a comparative basis, with special attention to be given to admissions which appear to be unnecessary, to faulty use of hospital services, and to prolonged stays. Dr. Hugh Robertson, former president of the Philadelphia County Medical Society, and Dr. James L. McCabe, associated with Misericordia and Fitzgerald Mercy Hospitals, were named as co-chairmen of this board. The Philadelphia Blue Cross is very optimistic that substantial accomplishments will be made by this board of doctors.

The Hospital Service Association of Western Pennsylvania is working closely with the Hospital Council of that area in carrying out Commissioner Smith's directives and has solicited and obtained cooperation from the medical societies. This Blue Cross Plan has set up a departmental division in its organization for the purpose of devoting full time to carrying out these directives.

The Hospital Council of Western Pennsylvania has recently announced a study to be made in Allegheny County to determine the most effective form of community organization to carry out coordinated planning and financing of new hospital facilities. The Hospital Council has chosen the Pennsylvania Economy League, a highly qualified organization, to make this important study.

The two Blue Cross Plans serving central Pennsylvania have applied themselves diligently in carrying out the commissioner's recommendations. They have each held group meetings of doctors, hospital administrators and trustees, and Blue Cross personnel to explore ways and means of accomplishing the objectives contained in the adjudication.

The Capitol Hospital Service, one of the two central Pennsylvania Plans, is employing medical doctors and registered nurses on a full-time basis to review Blue Cross hospital admissions

by personal visits to hospitals. Also in Pennsylvania, the State Medical Society made initial plans for a study into effective hospital utilization.

One of the most important developments growing out of the adjudication in Pennsylvania was the creation of a Governor's Hospital Study Commission, under the chairmanship of the insurance commissioner, composed of 45 eminent citizens drawn from the fields of medicine, hospitals, Blue Cross Plans, Blue Shield, business, and labor. Plans are now being made to properly finance and staff this commission for it to make a thorough and complete study into all phases of hospital operations and the financing of hospital costs.

Although I am a member of this commission, I cannot in any manner speak for it or conjecture what final recommendations it will make. However, I shall offer some of my own personal thoughts with regard to hospital financing. Again, I will say that any views I have are flexible and may in many instances be modified as I learn more about this field. First of all, it would appear to me that many of the costs of operating hospitals should be defrayed by the community at large, and not merely by the portion of the community which happens to be sick enough to be placed in hospitals. Each of us are benefited by the existence of our hospital system whether or not we happen to be eventually hospitalized. The fact that hospitals are available in the event of serious illness is a benefit in itself. Even more important, the whole community profits by the services rendered by hospitals in keeping the members of the community in a relatively healthy state. These general public and community benefits should be paid for by the whole community and not merely by those who, due to sickness, must pay hospital bills. I cannot conclude, for example, that it is either socially or economically desirable for the sick people in the community to largely bear the cost of the free care provided by hospitals to members of the whole community.

There may be differences of opinion as to what basic hospital costs should be shared by the whole community and which should be paid mainly by hospital patients. I would suggest that possibly the following items of cost might more desirably be shared on a total community basis: (1) initial cost of hospital construction; (2) the amortization of hospital indebtedness and interest for initial construction and capital improvements; (3) the cost of major items of specialized equipment; (4) the repair and maintenance of the hospital plant; (5) the cost of medical research; (6) hospital costs for nurse and intern training; (7) the cost of free care; (8) the depreciation on capital investments.

Each one of the foregoing expenditures, in my mind, is necessary for the existence in the community of the hospital system itself; conversely to the extent that the foregoing expenditures are paid for by the sick, this single group, usually the least able financially, is supporting a community cost that benefits the whole community.

If the whole community should defray the basic costs I have mentioned, the individual users of hospital services, that is, patients in hospitals, would pay for only the following services: (1) the cost of specialized medical treatments and services which they receive; (2) a prorata share of the cost of nursing services actually rendered patients in the hospital; and (3) the ordinary hospital expenses involved in providing room accommodations and food.

A realignment of the sources of hospital revenue along the lines mentioned should substantially reduce the individual burden of the cost of hospital care. Hospital services then would be placed within the financial reach of many more citizens and would be less burdensome upon many others. Such a lessening of

the individual financial burden for hospital care would provide both Blue Cross Plans and commercial insurers with new and greater opportunities to furnish hospital protection to the public at rates which the public could reasonably afford to pay. With such basic readjustments in hospital income, we would witness in the next decade, in my opinion, an expansion of hospital prepayment plans and insurance which would far exceed the development in these fields over the last decade.

The question may arise as to whether such a realignment of the sources of hospital revenue, as I have discussed, would in any manner threaten private management and control of voluntary hospitals. I personally do not feel that it would. Hospitals today receive subsidies from agencies of local, state, and federal governments. Any additional funds received for the purposes which I have mentioned could be given upon the basis of objective standards that would in no manner involve local, state, or federal control. Such standards might be the population served, the age and condition of the hospital plant, and the nature and extent of research or training performed by a hospital.

Furthermore, community funds for the purposes I have listed need not be derived solely from government; they can be derived from foundations and popular subscriptions, as well as government agencies. If such a change of income sources would remove or ameliorate the substantial deficits of hospitals, it might very well render hospitals even more independent. If hospitals could overcome deficit financing, their trustees, administrators, and medical staffs would be free to devote more time and money to advancing and expanding hospital services.

Some hospital studies have recommended that increased governmental subsidies be geared to the services rendered by hospitals to specific patients unable to pay in full or in part for medical care. These patients have been designated as the needy and the medically needy. This may be a sound suggestion, but it appears to me to be based upon the principle that hospital patients, whether their bills are paid by themselves or by others, should largely support the hospital system. It also would reduce a substantial number of the people who use hospitals to charity cases, who by no other standard are economic charges upon the community. While the cost of free care rendered by hospitals should be defrayed by the whole community, the rendering of free care should not, in my opinion, be the sole basis for public subsidies. If some of the other costs necessary in providing a community with a good hospital were to be borne by the public generally, the amount of free care given by hospitals would be substantially reduced.

Much has been written and said about hospital organization, and recommendations have frequently been made that hospitals be organized on a coordinated basis. A study made by the Graduate School of Public Health of the University of Pittsburgh for the Department of Welfare of the Commonwealth of Pennsylvania recommended such a coordinated plan. Under this plan, the state would be divided into districts, each district served by a coordinated system of hospitals; each district would contain larger hospitals providing major and more highly specialized hospital services and smaller community hospitals providing more common forms of hospital services. Under this proposed plan there would be close coordination and cooperation among the various hospitals and clinics in a district. I understand that such coordinated planning has been recommended by the United States Public Health Service.

While I have no considered views on this type of planning, I do know from certain studies that have been made

(such as that recently conducted in Cleveland, Ohio, under the auspices of the Cleveland Blue Cross Plan), that excessive hospital facilities place a serious financial burden upon the communities that attempt to support them. This study has shown that each new hospital bed constitutes a large capital outlay, and that the continuing support of each bed places a permanent financial burden on the community, whether the bed is occupied or not.

This study has also shown that a community may have, for example, more maternity beds than it has ever used at any one time; despite this fact certain hospitals in the community are unable to properly care for their maternity patients due to a shortage of beds. These findings suggest that some form of better organization of hospital facilities would lead to substantial savings in the cost of hospital operations.

Regarding hospital utilization, the commissioner in his adjudication directed the Blue Cross Plans to make a thorough study into ways and means of removing any abuses that might exist in the use of hospital facilities. While he recognized the difficulty of determining the extent of alleged abuses, he nevertheless recommended that certain actions be taken preliminarily to lessen any existing abuses such as greater scrutiny, on the part of hospital committees, of admission practices and length of stays. As I have said earlier, the Pennsylvania Medical Society has gone on record as recommending that all hospitals in Pennsylvania be encouraged to create admissions committees to perform such duties.

The Blue Cross Plans in Pennsylvania, on their own initiative, have taken steps to lessen unnecessary utilization, as in the case of the Philadelphia Blue Cross Plan, which has created a board of eminent doctors to review Blue Cross admissions. Some of the Blue Cross Plans in Pennsylvania are offering to their subscribers coverage for outpatient diagnostic service, and other plans are requesting authority to do the same. The co-pay feature has been placed in one of the contracts offered by the Philadelphia Blue Cross Plan; the plan also provides visiting nursing care. These features in Blue Cross contracts may ultimately eliminate much of the unnecessary hospital utilization that may now exist—Blue Cross Plans might also consider whether there is any merit in giving subscribers a bonus of additional days of coverage where they have used a minimum of Blue Cross benefits over a prescribed period of time.

In Pennsylvania, we feel that real progress can be made over the next few years to bring about a more efficient and effective hospital system. If this is accomplished, Blue Cross Plans will be able to offer greater benefits to the public at relatively less cost; the same will be true with regard to commercial insurance companies.

Without passing upon the relative merits of the various methods by which Blue Cross Plans reimburse hospitals, I will say that whichever method is used, it should be one which will pass on to the Blue Cross subscribers the money savings made by hospitals through more efficient organization and operation.

It is expected that the hospital study being made in Pennsylvania by the Governor's Commission will answer many of the questions I have discussed today. The insurance commissioner has informed the commission that he is not interested in hasty answers to these difficult questions, but wishes it to take the necessary time to make a thorough and complete study into the whole hospital system in Pennsylvania.

It has been frequently said that should hospital costs continue to rise and necessary hospital and medical services be priced beyond the reach of the greater number of our citizens, the next step will be government control of our hospital system. I cannot assess the

truth of this statement, but, in my opinion, it would be a grave misfortune if this should ever happen. The voluntary hospital system in America, under the guidance and administration of private trustees and administrators, has advanced the quality and extent of hospital services to their present high level. While I do not know whether rising hospital costs constitute any serious threat to our present voluntary hospital system, I do know that if these costs continue their upward spiral and if the present method of financing these costs is unchanged, millions of American citizens will be either deprived of adequate medical care or they will obtain it only by reducing themselves to charity cases.

The insurance commissioner of Pennsylvania demonstrated by the adjudication his intent to perform his regulatory duties in relation to nonprofit Blue Cross Plans in a manner that will preserve their public value to the whole community. It is my personal opinion that Insurance Commissioner Francis R. Smith of Pennsylvania, by his adjudication and his continuing active interest in Blue Cross and hospital problems, is making a lasting contribution to the people of Pennsylvania in lessening the financial burden of hospital care.

Mr. Springer was deputy attorney general, Department of Justice, and general counsel, State Insurance Department, Harrisburg, Pa., at the time this paper was presented. He is now vice-president and legal counsel, Hospital Service Association of Western Pennsylvania, Pittsburgh, Pa.

This paper was presented before the Medical Care Section of the American Public Health Association at the Eighty-Sixth Annual Meeting in St. Louis, Mo., October 28, 1958.

Chronic Illness Nursing Course

Yale University's Department of Public Health will offer its second graduate program leading to an M.P.H. degree with a major in chronic illness nursing in the 1960-1961 academic year.

The goal of the program is to prepare nurses for the responsibilities of supervision, education, and consultation in this field. The curriculum, which will emphasize prevention and rehabilitation, is also designed to help the graduate student acquire a broad understanding of community organization and public health problems and practices.

Applicants for this course must have a bachelor's degree (with high scholastic standing), be graduated from an approved nursing school, and should have had practical public health experience. Further information from Edward M. Cohart, M.D., acting chairman, Department of Public Health, Yale University School of Medicine, 310 Cedar Street, New Haven 11, Conn.

An interim report on a "hot" subject is presented in this account of a prepayment plan for drugs. All those interested in the financing of health services will want to know what happened in the next installment.

INSURANCE AGAINST DRUG COSTS— A PROGRESS REPORT

W. A. Wilkinson, Phm.B.

"THAT ANYONE should be denied access to prescribed medicine because of one's inability to pay is barbarous." Incredible as it may seem in this enlightened century, dispensing pharmacists know only too well how tragically true and how increasingly frequent these cases are becoming.

Parents and children alike in the lower and middle income brackets are financially unable to purchase most of the new, potent life-saving medicines now available. The physician, when treating these cases, is denied the use of some of the most modern and effective tools, with the result that the patient goes without the medicine, or goes into debt to provide the medicine, or requests the physician to prescribe something less expensive and quite likely less effective. In any case, whatever the cause, the patient is denied access to the most desirable medicine, with the resulting undesirable effects on the patient.

We believe access to modern medicine to be a right and not a privilege. We believe it is the responsibility of our twentieth century society to assure this right to its members. The complexities of modern living have priced the access to all the necessary facilities for health beyond the individual's ability to pay. When serious illness strikes suddenly, only the very wealthy can get along.

Modern society is based on community living, so it is not surprising to find many of the necessary services of the community provided on a "share the cost" basis. These include: the public school system; the fire department; the police department; roads, sidewalks, street lighting; the public library; city hospitals, sanatoriums and baby clinics; and a host of public utilities and other services we take for granted.

In a slightly different way, private enterprise in the form of insurance companies provides coverage for a variety of disaster-type conditions, using the voluntary prepaid plan and the principle of the shared risk.

In all the cases cited here the task of providing the services as individuals would be impossible, and it is considered proper to take collective action to accomplish that which we are unable to do alone. So it should be with prescribed medicine.

If it is true that a substantial number of our population is presently barred from free choice of prescribed medicine —and recent surveys indicate that this is so—and if lack of money is the barrier, then surely prescribed medicine must join the ranks of these essential services and some provision must be

made to see that access to it is acquired by all. If this is to be brought about, someone, some association or some agency must come forward with the necessary leadership. It could be an association of pharmacists, it could be a private insurance company or a pharmacy association, it could be an agency of the Federal or Provincial Governments.

We do not subscribe to the principle of state-operated pharmacy. We do not believe that the best interests of the patient and the profession will be served if financial control over prescribed medicine should pass to politicians, promoters or lay people who would develop and administer a prescription insurance plan. We do believe, however, that pharmacists through collective action, pharmacy associations, and faculties have a responsibility to the nation to provide such a plan and a responsibility to the profession to undertake its creation and administration—for if we do not, it is almost certain the government will.

Prescription Services Inc. is a non-profit organization chartered by the Province of Ontario in behalf of five pharmacists in the County of Essex. Its aims are to create and administer a prepaid prescription plan. Its immediate objective is to operate this plan in the County of Essex, and, if successful, to extend its field of operation eventually to cover the Province. The organization exists for the primary purpose of providing access to prescribed medicine by prepayment.

We are unable to discover any comprehensive voluntary prepaid prescription plan in operation anywhere in the free world. We believe this is the first serious attempt to establish such a plan. We have been told over and over again by "experts" that it cannot be done. The reasons most frequently given are:

1. That excessive demand by patients cannot be controlled.
2. That excessive prescribing by physicians cannot be controlled.
3. That quantities cannot be controlled.
4. That the frequency of new prescriptions or the abuse caused by repeat prescriptions cannot be controlled.
5. That a plateau of use can never be determined.
6. That a plateau of average prescription price can never be reached.
7. That it is an open invitation to larceny by physician, pharmacist and patient.

If it be true that cheating could be so widespread, that out-and-out collusion among patients, physicians and pharmacists would place any plateau beyond the reach of a reasonable premium, then these "experts" are right—it cannot be done. If, however, plateaus of cost, selling price and subscriber use can be ascertained, and if reasonable safeguards can be designed to prevent or at least to minimize abuses, we believe an adequate plan of prepaid prescriptions can be evolved.

Prescription Services Inc. is at this stage now, and all my remarks will be directed to an explanation of the pilot phase of this undertaking. From our pilot study will come the data needed to confirm or disprove the feasibility of this type of plan. I should like to outline the plan under the following headings: The Corporation, Member Pharmacies, Subscribers, and Administration; and to present a summary of its first five months of operation, which may indicate some trends.

The Corporation

The Board of Directors, consisting of five members, elects a president, vice-president, secretary, and treasurer and appoints a pharmaceutical director to conduct the affairs of the corporation.

The corporation enters into agreement with member pharmacies to provide the service set out in the service agreement. These contracts are known as "Member Pharmacy Contract" and "Service Agreement."

A member pharmacy, as a condition of membership, is required to loan the corporation the sum of $150 repayable in ten years without interest, as its share for the underwriting of the plan, and it further agrees to be prorated, when necessary, in the payment of its monthly accounts. The subscriber, upon enrollment, individually agrees to the terms of the service agreement and through a group manager or the employer, as the case may be, pledges monthly premiums and prompt reports of additions and/or deletions.

Thus the corporation, acting as an agent for both subscribers and member pharmacies, is able to make and enforce regulations with respect to excesses, abuses, exceptions and quantities by the simple expedient of declaring in the service agreement what the corporation is willing or unwilling to pay for. No effort is made and none is intended to dictate to either profession what may be prescribed or dispensed. The corporation dictates only what it will pay for. The role of the corporation as agent for all parties is the heart of the plan.

Administration

In addition to the normal administration problems of any office, we find our work falls into three broad categories: (a) subscriber enrollment and records, (b) group—records and billings, and (c) member pharmacies—checking and coding charge cards, accounts payable.

The limited scope of our operation, to date only five months old, and the small numbers even now insured have not warranted the expense of complicated machine runs of the charge cards. However, a fair amount of hand sorting, tabulation and summarizing has brought to light a number of interesting facts and what appears to be the establishment of one or two trends.

Before dealing with the summaries it might be well to familiarize you with the location of our test area, its size, population and work force, as well as a few details concerning our member pharmacies and some problems related to the sale of this plan.

Essex County is the southwestern tip of the Province of Ontario and is bounded on the north by Lake St. Clair, on the west by the Detroit River and on the south by Lake Erie. It has an area of about 600 square miles and a population of about 200,000, of whom about 170,000 reside in the Greater Windsor Area. The work force is approximately 85,000, is highly industrialized and is largely unionized.

Members and Subscribers

Sixty-four of our member pharmacies are located in the Windsor Area and 11 in towns throughout the county, all in a radius of 40 miles. Seven dispensing pharmacies declined to join as members. Four hospitals were notified of the procedure to follow if presented with a prescription covered by our plan.

There now remained the problem of selling the service to eligible groups, and, strangely enough, this has not been as easy as one would have expected.

Since pre-existing conditions are not excluded, the lame and the halt clamored to join as individuals or to form groups of chronically ill people in the hope of being accepted as an eligible group.

In small eligible groups composed of a reasonable balance of well and sick people, we find many well people indifferent to the protection being offered, who look only upon their expenditures for medicine in the past and who, assuming that their luck will hold, feel they would not benefit. Their nonparticipation oftentimes makes it impossible to complete an eligible group.

Many hourly rated employees, especially single men and women and those who have not yet known the tragedy of sudden serious illness or accident, seem

to be interested only in their take-home pay and resent any suggestion that a deduction should be permitted to insure prescriptions. They assume that if the plan is worth while, their union will get it for them in their next contract. Management, especially of those companies operating with union contracts, is quite frank in its opposition to establishing or contributing to another "fringe benefit." Organized labor is generally favorable to the plan in principle, as could be expected, for it appears to be a step toward a more complete coverage of "good health" services. At this point several plant locals have included "prescription services" in their contract amendments. Most of these contracts are now being negotiated and the next few months will indicate the amount of importance placed on acquiring this service. On the basis of 2.1 persons to a family and a 40-hour week, "prescription services" as a "fringe benefit," work out to 1½ cents per hour.

In spite of the difficulties encountered, and with no sales staff except the pharmaceutical director and a secretary, we have been able to sell this service to 22 groups of employees, composed of 244 families, representing 581 persons.

Summary of Operations

When operations began in January, 1958, it was decided to enroll groups of individuals and make the first effective date March 1, 1958, for those enrolled in January; April 1 for those enrolled in February; May 1 for those enrolled in March, and so on. The results have been as follows:

Date (1958)	Groups	Families	Individuals
Mar. 1	4	65	145
Apr. 1	8	99	225
May 1	15	164	374
June 1	20	238	562
July 1	20	237	548
Aug. 1	22	244	581

A summary of information provided by hand-sorting the IBM pharmacist charge cards as they became available each month gave us the following:

During March, 1958—

95 prescriptions, filled at an average ingredient cost of $1.90 and an average retail price of $3.68, showed a yearly "use rate" of 7.8, or 0.655 for the month.

During July, 1958—

212 prescriptions, filled at an average ingredient cost of $1.86 and an average retail price of $3.72, showed a yearly "use rate" of 4.63, or 0.386 for the month.

The dollar cost per patient remained at about the same level: $7.30, $6.68, $7.91, $7.01 and $7.59, or about two prescriptions per patient.

The dollar cost per insured began at $2.41; then dropped to $1.66, $1.58, $1.20, and $1.44, indicating a reduction in cost as the numbers of insured increased. It will be noted that these costs exceed the premiums being paid. Thus the plan up to this point is operating at a loss.

On the brighter side, however, we can find no evidence of cheating by the patient. An examination of the prescriptions written finds little or no variation in prescribing habits of the physician, except that the amounts prescribed for chronics and for patients on continued medication nearly always approach the maximum permitted. Hence the average cost and retail price of the prescription run nearly $1 higher than our national average. If there is no waste, these larger quantities eventually result in a saving to the corporation.

The monthly "use rate" began at 0.655, has declined as the number of insured has increased, and is now at 0.386, indicating that a satisfactory plateau can be found, we hope, somewhere in the vicinity of 0.250. The average retail price of a prescription seems to have leveled off at or near the $3.50 mark, probably for the reason given in the foregoing. Not being an economist or a statistician, it is not possible for me to set down in table form the information required for a detailed

statistical study. In fact, it is doubtful that enough subscribers have been enrolled long enough for any conclusions to be formulated. It is our hope that Dr. Sinai and Mr. Darsky will be able to help us in this matter as times goes on. In the meantime, consider this a "progress report."

At this point, however, so much seems certain: A plateau of price seems to have been reached; a plateau of use seems to be in the offing. Thus "average price times use rate" will establish a premium, and if this premium can be kept within reason, we can produce a desirable policy which can be sold in quantity. Meanwhile, our member pharmacies are underwriting our losses. How long they will be willing or able to continue doing this we cannot say, but we hope that the leadership given this project by our corporation may find favorable consideration in the profession and that financial assistance to continue this worth-while experiment may be forthcoming.

We are convinced that the perfection and widespread use of a prepaid medical prescription plan will contribute immeasurably toward better health, a more orderly conduct of professional pharmacy, and a happier nation. We believe our plan, as now in force or with slight modifications discovered by trial and error, can succeed. And, in addition, we believe that more time will show us the way.

Mr. Wilkinson is president of Prescription Services Inc., Windsor, Ontario, Canada.

This paper was presented before the Dental Health, Medical Care, and Public Health Nursing Sections of the American Public Health Association at the Eighty-Sixth Annual Meeting in St. Louis, Mo., October 29, 1958.

Personal Maturity and Family Security

The International Union of Family Organizations will hold an International Conference on the Family in conjunction with the annual meeting of the National Council on Family Relations at Teachers College, Columbia University, August 23-26. This is the first conference which IUFO has ever held outside Europe.

The theme will be Personal Maturity and Family Security. In addition to the plenary sessions, sectional meetings will be held on Early Child Development; Family Life Education in the Schools; Family Life Education in the Colleges; Family Life Education in the Community; Parent Education; Religion; Counseling; Research; and Economic Aspects of Family Security.

For information on registration: Mrs. V. W. Jewson, Executive Secretary, National Council on Family Relations, 1219 University Avenue, S.E., Minneapolis 14, Minn.

This is a report by the New York City Health Department of findings of a survey of orthopedic outpatient services in 1957. Based on these findings recommendations are made for raising the standards.

ORTHOPEDIC OUTPATIENT SERVICES IN NEW YORK CITY —RESULTS OF A SURVEY, 1957

Robert S. Siffert, M.D., F.A.P.H.A.; Margaret A. Losty, R.N., F.A.P.H.A.; and Sylvia B. Snyder

A DRAMATIC CHANGE has occurred in hospital care of orthopedically handicapped children in the last fifteen years. The inpatient census has steadily declined while outpatient populations have increased many fold. Several factors are involved in this shift from the hospital-treated to the ambulatory patient. Perhaps most responsible is the decline in the incidence of chronic conditions usually requiring long and repeated periods of hospitalization, such as poliomyelitis, tuberculosis, osteomyelitis and birth injuries. Through the success of improved reconstructive surgical and rehabilitation methods it has often been possible to avoid the late deforming complications and disabilities of developmental and congenital abnormalities and trauma.

Concomitantly the development of effective splinting, casting and rehabilitative technics has permitted more deformities to be treated on an ambulatory basis. Improved community services, such as visiting and public health nursing and welfare agencies, have made continuity of care on an ambulatory basis a possibility. Education and training have often created an awareness on the part of the obstetrician, pediatrician, general practitioner, nurse and teacher of the nature of many crippling conditions. The result has been improved case finding and referral of patients to outpatient services for care early enough so that ambulatory treatment may be effective and hospitalization may not be necessary.

This shift in the population of crippled children from the hospitalized to the ambulatory necessarily must be accompanied by much improved outpatient facilities to care for their increasing needs. In- and outpatient care must be more closely integrated and should be considered philosophically as different phases of the same treatment, both being a part of a single hospital plan for total care of the child with an orthopedic handicap. There should be the same close coordination between all the medical services, including orthopedics, pediatrics and physical medicine, and the paramedical services, including nursing, social, vocational, recreational and educational services, that exists in well-organized inpatient services. In addition, these facilities must be planned to extend into the community not only to provide excellent ambulatory care but to insure the continuity of such care. In general, hospitals, because of their staffing and facilities, are more able to render comprehensive care than separate clinics operated by public health agencies.

In 1957, the Bureau for Handicapped Children of the New York City Department of Health conducted a survey of children's orthopedic clinics in the 20 hospitals participating in its Crippled Children's Program. The survey was conducted by the authors representing

the fields of orthopedics, nursing and social service, and administration who visited the 20 hospital clinics.

The purpose of the survey was, first, to determine the types of services available in relation to the growing ambulatory population of orthopedically handicapped children seeking care in hospitals in New York City; second, to compare technics employed in the various clinics so that the collective "know-how" might be pooled to improve ambulatory care throughout the city; third, to estimate the needs of the orthopedically handicapped child and to evaluate the role of the hospital and the community in meeting these needs, as a basis for future planning.

Of the 20 hospitals visited, five services were in municipal hospitals and 15 in voluntary hospitals. Two of the voluntary institutions were children's orthopedic hospitals, whereas 18 were combined services in general hospitals treating both children and adults.

The impression of the survey team was that in the ten hospitals with separate pediatric orthopedic clinics, children received better total over-all care than in hospitals with mixed adult and children's clinics. There was generally greater interest on the part of the attending, resident and nursing staffs in the problems of handicapped children than there was in the care of the adult patients. Social services were more intensive than in adult clinics and there was generally better use of visiting nurse and public health nurses, as well as more referrals to other community agencies. In general, also, there are more community resources available for handicapped children than there are for adults; recreational facilities were often available and follow-up technics tended to be more efficient.

In those hospitals where the orthopedic census did not warrant a separate day set aside for a session for children, the same result was accomplished by dividing one clinic into two periods, early and late. The earlier period was developed as a miniature children's clinic, attended by all the medical and paramedical personnel needed to render efficient total care and services to the handicapped child.

The definition of a "child" in relation to the top age for admission to the pediatric orthopedic clinic varied from the more commonly accepted puberty at 12 or 13 to the occasional postadolescent of 17 or 18. Orthopedic disabilities, whether due to congenital, developmental or posttraumatic conditions, involve the growing, changeable and adaptable musculoskeletal system of the body. Since skeletal growth does not terminate until the period of epiphyseal closure at about 17, and deformities can progress until this age, it is unreasonable to interrupt care in the pediatric orthopedic clinic at an arbitrary earlier age. The 12-year puberty limit had its origin in an accepted standard for general pediatric clinics, but in orthopedic clinics it serves only to interrupt continuity of care during the period of most rapid growth, when deformities and disabilities such as scoliosis might require the closest scrutiny and when stabilizing procedures and muscle transplants are usually most successful.

In hospitals planning to expand or improve their children's orthopedic clinics, and to include the 12 to 17 year old, consideration should be given to an adolescent section. Special social, educational and vocational as well as medical problems pertain to this group and might receive more thorough and appropriate attention in this type of setting than in a large clinic for children or adults.

In view of the lack of adolescent units within the hospitals themselves, close attention must be paid to integrating the services between in- and outpatient care. Children over 12 years of age assigned to a pediatric orthopedic clinic with the higher age limit, are admitted to adult

inpatient units. Although medical staffs are the same, social service, nursing and other paramedical services are often sharply divided in terms of age between pediatric and adult, and often between in- and outpatient as well, so that when the child is admitted to the hospital, the team that has been working so closely together in the pediatric orthopedic clinic is often replaced by a completely different adult-oriented group.

In almost half, or nine of the 20 hospitals, it was noted that there was insufficient resident or attending staff, and in some instances both. Although it is obvious that more staff members should be assigned to the children's clinic, one of the major factors contributing to the relative shortages of medical personnel was the expressed or implied philosophy that the clinic was of secondary importance in relation to the orthopedic service as a whole. Lack of interest on the part of clinic chiefs and attending physicians was responsible for doctors appearing late and leaving early, as well as for frequent absences. Residents soon began to emulate the attending staff so that clinics started late and were rushed throughout.

However, in six hospitals, or about one-third of those surveyed, the chiefs considered the clinic of sufficient importance to the total orthopedic service that they attended and played a significant role in direction and teaching at every session. They felt that the outpatient service was as important as the inpatient in the areas of case finding, ambulatory and postoperative care and follow-up, and that the quality of care should be as good.

Although in all hospitals the in- and outpatient staffs were the same, it was a common policy for newly appointed staff members to be placed in the clinic for a "breaking in" period before assuming inpatient responsibilities. This "farming out" point of view not only delegates the least experienced members of the staff to the clinics—thus making for frequent unnecessary admissions because attending personnel lack authority to make major decisions—but in the minds of attending physicians and residents it establishes as a service and hospital philosophy the relative lack of importance of the clinics in relation to the service as a whole.

The role of the attending staff should not be solely to check the residents, but rather to participate actively in instructing and coordinating the orthopedic aspects of the case with whatever individual needs the patient might have. The responsibility of the orthopedist in the outpatient service extends far beyond the treatment of the child's physical disability. Even under ideal circumstances of good pediatric, physiatric, social service and nursing liaison, it is the orthopedist who must be aware of the needs of the child. He is the one who must inquire into the feasibility of the treatment ordered to determine whether social work, visiting nurse, vocational or physical therapy service is required and the one who must be responsible for their coordination. As challenging as it may be to supply all necessary services to an orthopedically handicapped child on a "captive" inpatient basis, getting these same services to him through the clinic requires far more initiative, inquiry, imagination, planning, and cooperation between medical and paramedical services. Without strong direction and conscientious participation by the orthopedist, these services cannot be rendered.

In many instances observed, medical treatment failed because it was merely prescribed, without inquiry as to its feasibility or the need for assistance from other medical or paramedical services. An example is that of a child who was readmitted to one hospital for a serious cellulitis of the leg, since she had not been able to follow the outpatient prescription to use hot soaks for a minor

toe infection because her gypsy abode lacked hot water. Frequently failures to correct hip, foot and leg deformities by braces are due to lack of understanding by parents or their inability to comply with instructions because the patient's appliance disturbs the other child or children who sleep in the same bed.

In general, pediatric participation in the children's orthopedic clinics was poor. In one hospital an attending pediatric physician occasionally came to the orthopedic clinic, and in only two were pediatric residents present routinely. Several orthopedic clinics were held at the same time as, and in proximity to, pediatric clinics so that emergency consultations could be obtained if necessary, but there was no plan for routine pediatric participation. Most pediatric referrals required new appointments and revisits. In 17, or 85 per cent of the clinics surveyed, pediatric examination of the child admitted to the orthopedic clinic at some time during his treatment was not mandatory and in fact was rarely obtained. It was felt that the pediatric-orthopedic liaison, which had developed to such an excellent degree for inpatient services through the efforts of the hospital consultation team, was practically nonexistent in most outpatient services and is one of the serious weaknesses of the service. Children, in the majority of instances, are treated solely for their orthopedic conditions without reference to their general pediatric problems. Although pediatric clinics are available in most institutions, review of the clinic charts revealed that they were rarely used for orthopedic patients.

With pediatric attending staff shortages, it is often not feasible or necessary to have a pediatric staff member at the orthopedic clinic. Several hospitals have discovered the value of rotating pediatric residents through the orthopedic clinic for varying periods of time. The presence of the pediatric resident is of great value to the orthopedist in his review of the children. He screens those requiring further pediatric work-up, makes notes on the charts, and prescribes simple pediatric medication. This makes extra visits to the pediatric clinic unnecessary and prevents further overcrowding of the frequently overburdened urban pediatric outpatient department. Perhaps the greatest value is educational. Most pediatric residencies, even though they include lectures in orthopedics, completely neglect the area in which the greatest training is necessary, namely, "office pediatrics." In a brief period of time at a well-run children's orthopedic clinic, a pediatric resident can become familiar with the examination of children who have ambulatory orthopedic problems, which will assist him in early recognition of deformities such as club feet, tibial and femoral torsion, and congenital dislocation of the hip. Here he can also learn methods for the management of simple orthopedic conditions that he himself can treat.

Except for three hospitals with no rehabilitation specialist on the staff, and several with uninterested directors, the liaison with Physical Medicine and Rehabilitation was good. Most ambulatory treatments were given in the central hospital department by qualified therapists. Orders were generally written by the physiatrist to accomplish the aims outlined by the orthopedist. The physiatrist was usually available for consultation and the patients returned to the orthopedic clinic for re-evaluation at the termination of his course of physical therapy.

In general there was a great shortage of nursing personnel, poor utilization of nursing skills, and a poor concept of the role the nurse can play in the clinic. Nurses in general served two roles, the major one being that of "traffic manager" in the clinic, the other the performance of occasional duties such as injections, dressings and preparation of sterile materials. In the former role

she overlapped clerical functions in obtaining charts and x-rays, calling in patients, assigning them to booths, making appointments and answering the phone. In no instance was she used to her fullest nursing capacity in counseling patients.

In the clinic, where so much responsibility rests with the patient for carrying out treatment at home, the nurse should play a more important role. Misinterpretation of doctor's orders, reluctance on the part of the patient to ask a doctor to repeat complicated instructions, language barrier, or limited time on the part of the physician is often the main reason for failure of the outlined therapy. Although it is often impossible to be present during all doctor-patient sessions, these problems could be avoided if it were routine for the nurse to talk to the parent before she left, to review the written orders on the chart, and to determine (1) whether the parent understood them correctly; (2) whether it is feasible to carry them out; and (3) whether she might need social service or public health nursing in the care of the child or supervision in the use of braces, casts, manipulations or exercises. A well prepared nurse can reinterpret and clarify doctor's orders, counsel the parent in nursing needs, and refer the patient, when necessary, to the medical social worker or appropriate community nursing agency.

In general, social service coverage in the clinics was far below the level of that available for inpatient services. Of the 20 clinics reviewed, only five, or 25 per cent, had medical social workers present or easily available during clinic sessions. Although in most instances referrals were solely for brace-ordering or school-placement forms, in several clinics there was close cooperation among doctors, nurses and social workers, occasionally with actual formal conferences, and the social workers themselves uncovered many instances where help was needed.

Only occasionally did preadmission planning include the medical social worker, and when it did, it was most often purely to determine financial eligibility, omitting any evaluation of the patient's social, educational and vocational problems. There were also frequent deficiencies in the chain of referral from inpatient service to convalescent home and then to clinic, as to who was the responsible social worker. With more and more treatment being provided on an outpatient basis, adequate planning for the child and his family assumes greater importance. Reactions and attitudes of the family and child, coordinated planning with the medical staff for the best possible school or vocational placement, and an integrated medical social plan taking into consideration the child's needs should be part of good comprehensive medical care.

One of the most important functions of a children's orthopedic clinic is follow-up. Rather than a separate administrative function, it should be considered an integral part of the clinic procedure in maintaining continuity of care.

Once a hospital has examined or begun treatment of an orthopedically handicapped child, some degree of responsibility must be accepted by the clinic to be sure that the prescribed treatment is followed and that the child is not neglected. Wherever possible, the child should not be permitted to suffer the deforming effects of a condition that is correctible.

Follow-up technics vary, but in general the more efficient ones have an amazingly similar pattern. They are all based on an appointment system whereby the charts of children expected on any given day are sent to the clinic in advance of the visit. At the end of the session the remaining charts are reviewed by a resident or attending physician to determine which ones of those who failed to appear require follow-up of the broken appoint-

ment. In hospitals where charts are obtained from the record room files only as the patient appears for the appointment, this technic is still applicable. A list of the patients expected is kept in the orthopedic clinic and at the end of the session the charts of those who have not appeared are sent for and reviewed by an orthopedist either that day or the following day.

Once the medical need for follow-up has been established, various clerical and administrative technics are usually effective, beginning with assignment of a new appointment by postcard or letter and extending to telephone calls, a community agency referral, or a visit by the medical social worker, depending upon the individual situation. Clerical technics which record telephone numbers of the family and father's place of business, school or child health station attended, or other identifying information, in anticipation of the need for further contact of the patient at the time he is registered at the clinic, materially assist in follow-up at a later date.

All clinics visited had some appointment system. The most efficient was that geared toward avoiding long waiting periods for mothers and infants, and the least efficient was a list kept for the sole purpose of limiting the number of children scheduled to visit at any given session. "Specific time" appointment systems were not successful, but divided sessions were very efficient. "Early and late" visiting periods or "early, middle and late" periods usually represented about one hour divisions of the clinic, so that patients never waited more than that length of time. It was then possible to utilize these individual clinic divisions efficiently for specialty clinics such as clubfoot, poliomyelitis or scoliosis. In an attempt to avoid broken appointments, care should be taken to determine the most convenient hour and day within the physical structure of the clinic for the patient to attend. Improved registration technics permit the patient to be seen soon after he appears, and this is further facilitated by having charts of patients expected for any given session obtained in advance of that session.

In addition to these basic areas of clinic structure, many other medical, paramedical and administrative technics determine the caliber of total care that the patient receives. Time limitations permit the enumeration of only a few.

Continuity of care, accurate evaluation of progress, and close doctor-patient relationship can only be developed when arrangements permit the child to be seen regularly by the same physician. This was true in only six clinics, or 30 per cent of those visited.

Unnecessary admissions can often be avoided if some thought is given to more complete work-ups in the clinic. This was true in only about half of the services, the rest admitting children for all work-ups beyond simple regional x-rays and blood counts or urinalyses. The use of "dry clinics," where problem outpatient cases can be seen by the entire staff on grand rounds or conferences, is also an efficient means of avoiding unnecessary admissions for this purpose. Even this facility may be overused, requiring extra hospital visits, when the clinic attending staff is inexperienced and incapable of making major decisions.

Groups of children of all ages, often with siblings, are frequently noisy and restless. Separate waiting areas that are large and attractive, with recreational facilities where children can play together, make difficult situations more bearable. Mixed waiting areas for adults and children, when two adjacent clinics or an adult and a children's orthopedic clinic are in session, expose the children to the unpleasantness of seeing adults with disabilities, such as amputees and those using crutches, to say nothing of the frequent annoyance the children may cause the adults.

In more than half of the clinics an extra visit was necessary to have x-rays taken. Seven clinics made arrangements to have the roentgenogram taken on the same day as the original clinic visit and were farsighted enough to make plans for future x-ray clinic appointments, thus avoiding unnecessary hospital visits.

In almost half of the hospitals, brace men did not attend the clinic session. Instead, patients took written orders to brace shops, called for the braces when completed, brought them to the clinic, and often had to make several visits to the brace shop for repairs and revisits to the clinic for approval. The presence of a brace man in one clinic session set aside for braces has several advantages. It permits discussion of the type of appliance required, which prevents misunderstanding; makes possible receipt of the appliance in the presence of brace man and physician, assuring that the proper appliance is received with the least amount of inconvenience and confusion to the patient; and serves as a teaching method for residents.

Plaster cast applications for fractures and correction of deformities were usually left to the residents, often those just beginning their orthopedic training. Closer integration of plaster work into the clinic itself, to be done in a separate room concurrently with the session, or at a separate supervised session, would permit the attending physician to supervise this type of work.

Unit systems of records are becoming more and more prevalent, permitting both in- and outpatient records to be kept together. Where there is no such method, discharge summaries need to be shown on the clinic charts. In spite of excellent unit systems, charts are often incomplete because many social service departments and departments of physical medicine and rehabilitation still maintain their own records separately in their departments.

Finally, and possibly most important —tenderness, consideration, humanity and privacy frequently leave much to be desired. Based on the experience of these observations, therefore, the Bureau for Handicappd Children, with the collaboration of its Orthopedic Advisory Committee, has completed a basic set of standards or "guide" for orthopedic outpatient services.

This technic, which was used with such a high degree of success to improve inpatient care in New York City, consists basically of (1) preliminary survey of facilities; (2) establishment of a set of standards or guide based on these findings and on the experience of an advisory committee; and (3) revisit to the institution for a conference, at which time carefully worked out realistic recommendations as well as methods whereby they may be accomplished, are reviewed. Periodic revisit includes this program as part of the ongoing services of the Health Department. With this outpatient guide in hand, therefore, the Health Department team is revisiting the hospitals for conferences with the total hospital group concerned with clinic care. By the use of the guide, which encompasses the basic principles of comprehensive ambulatory care and the combined experiences of all the orthopedic clinics in New York, it is anticipated that new technics may evolve and that many improvements may result in the ambulatory care available to orthopedically handicapped children in New York City.

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This is a study of feral rodents in Georgia to determine their importance as reservoirs of leptospiras. It focuses on the significance of habitat in perpetuating natural infections.

THE OCCURRENCE OF LEPTOSPIRAL INFECTIONS IN FERAL RODENTS IN SOUTHWESTERN GEORGIA

Robert Z. Brown, Ph.D. and George W. Gorman, B.S.

THE OCCURRENCE of leptospirosis in feral rodents in southwestern Georgia was investigated in an effort to determine the importance of these animals as reservoirs of leptospiras transmissible to man and to evaluate the importance of habitat in the perpetuation of infections in nature. These studies were conducted between October, 1953, and July, 1955, after which date emphasis was shifted from rodents to larger feral mammals.[1]

The importance of leptospirosis in the southeastern states has increased greatly in recent years. While it is most commonly associated with domestic animals, recent outbreaks of the disease in human beings in Alabama,[2] North Carolina,[3] and Georgia[4] have demonstrated the need of additional information on possible wildlife reservoirs and methods of transmission.

Rodent reservoirs of leptospiras have been demonstrated in various parts of the world.[5-9] The first Leptospira isolation in the United States was Leptospira icterohemorrhagiae from wild rats.[10] Leptospira ballum has been isolated from rural house mice in Virginia and from stock laboratory white mice.[11]

Methods

Rodents were collected with Young's No. 15A live animal traps. Usually 25 traps spaced 20 feet apart were used in each line. In a few instances 50 or 100 traps were used in a single line, but these instances were so few that for purposes of analyses they were considered to be two or four lines placed end to end. Lines were placed wholly within recognized habitat types so that no part of any line was within 50 feet of other adjacent habitat borders. Areas to be trapped were chosen for proximity to cattle in which leptospirosis had been diagnosed. Because of the abundance and distribution of infected herds it was possible to sample by trapping the majority of stages in the ecological succession of the area. These stages and the habitats representing them are shown in Table 1. The stages in primary succession labeled moist lowland, hydric hammock, and streambank forest are heavily wooded and appear to be fairly permanent. The grassy limesink ponds are also communities of long duration. None of these areas are considered climax. The geographic area included in the studies covers approximately 500 square miles in Baker, Dougherty, and Mitchell Counties in southwestern Georgia.

Traps were baited with a mixture of rolled oats and peanut butter. With few exceptions, lines were run for three nights. Captured rodents were identi-

fied and transferred from the traps to cloth bags. A record was made immediately of the date, line number, trap number, species, and sex of each specimen.

At the laboratory the identification and sex of each specimen was checked again. They then were anesthetized with ether, weighed, measured, and killed by exsanguination. Kidneys were removed aseptically, ground in a small amount of physiological saline, and three drops inoculated into each of four tubes of Chang's[12] semisolid culture medium fortified with rabbit sera. Cultures were incubated for 30 days at 28° C and examined for the presence of leptospiras using darkfield microscopy. Positive cultures were subcultured into additional tubes of the medium to obtain maximum growth of the organism. These subcul-

Table 1—Number of Specimens Collected from Various Habitats, Number Cultured for Leptospiras, and the Number Positive by Culture

Stage of Ecological Succession and Representative Habitats	Number Specimens Collected	Number Cultured	Number Positive	Per cent Positive by Culture
Primary Succession				
Dry pineland (fire)	66	18	0	
Mixed pine-oak woodland	85	7	1	14.0
Dry oakland (lumbered for pine)	131	41	0	
Moist lowland	8	8	0	
Hydric hammock	6	6	0	
Streambank forest	36	22	0	
Grassy limesink pond	60	49	1	2.0
Secondary Succession Cultivation				
Barnyard	5	3	0	
Pastureland	9	2	0	
New oatfield	1	1	0	
New cornfield	51	24	2	8.3
Lupine field	14	12	1	8.3
Harrowed pecan grove	10	4	0	
Planted cover for birds	15	15	0	
Oldfields				
First-winter cornfield	203	49	4+9 pools	26.0
1-year-old cornfield	44	9	0	
2-year-old cornfield	194	76	10+1 pool	14.0
3-year-old cornfield	89	66	5+3 pools	12.0
1-year-old cottonfield	62	12	0	
1-year-old peanutfield	60	43	8	19.0
2-year-old peanutfield	111	23	1	4.4
3-year-old-peanutfield	68	18	0	
3-year-old unclassified field	5	4	0	
Broomsedge fields (over 3 years old)	1,024	337	6+5 pools	3.3
Miscellaneous				
Young planted pines	36	9	0	
Burned oldfield	23	12	0	
Cover strip unplanted	53	2	0	
Dry fence row	137	15	4	27.0
Moist fence row	15	0	0	
Unknown	52	46	4+1 pool	11.0

Table 2—Species and Number of Specimens Collected, Number Cultured for Leptospiras, and Number Positive by Culture

Species	Number Collected	Number Cultured	Number Positive	Per cent Positive by Culture
Peromyscus gossypinus gossypinus	190	90	0	
Peromyscus polionotus polionotus	1,053	390	2+1 pool	0.78
Peromyscus nuttalli	5	2	0	
Sigmodon hispidus komareki	450	104	2	1.9
Mus musculus	875	284	43+18 pools	21.0
Microtus (Pitimys) pinetorum	5	1	0	
Reithrodontomys humulis	43	22	0	
Oryzomys palustris palustris	11	10	0	
Rattus norvegicus	34	30	0	
Cryptotis parva	5	0		
Blarina brevicauda	1	0		
Total	2,673	933	47+19 pools	7.1

tures were submitted for typing to the Leptospira Research Laboratory of the Communicable Disease Center Laboratory Branch.

Sera were harvested from blood drawn from individual specimens and sent to the Diagnostic Research Laboratory of the CDC Laboratory Branch, where complement-fixation tests for leptospirosis were performed.

Results

From October, 1953, to July, 1955, 2,673 animals representing eight species of rodents and two species of shrews were taken in 16,375 trap nights. Species taken in greatest numbers were the house mouse, Mus musculus, 875; the oldfield mouse, Peromyscus polionotus, 1,053; the cotton mouse, Peromyscus gossypinus, 190; and the cotton rat, Sigmodon hispidus, 450. The six other species were collected in numbers ranging from one to 43 (Table 2). Of the specimens collected, 933 were tested to determine the occurrence of leptospiral infections. Death in traps (weather, ants, and so forth), lack of facilities during periods of heavy trapping, and the difficulties of handling the small blood samples prevented testing a greater percentage of the total catch. Leptospiras were cultured from 47 individual specimens and from 19 pools which contained a total of 64 specimens, each pool including one specie only. The 66 isolations obtained were all identified as L. ballum. Considering each positive pool as one infected specimen, isolations of leptospiras were obtained from three species, as follows: 0.8 per cent of the P. polionotus, 1.9 per cent of the S. hispidus, and 21 per cent of the M. musculus. None of the positive rodents demonstrated apparent evidence of infection.

Leptospiral isolations were obtained from 11 of 30 types of habitat from which specimens were tested (Table 1) and, with two exceptions, from each habitat from which 20 or more specimens were tested. These exceptions were the streambank forest from which 22 P. gossypinus were the only specimens tested and dry oakland from which 38 of 41 specimens tested were P. polionotus. Two P. gossypinus and one S. hispidus from dry oakland were also

tested. More than 10 per cent of specimens were infected in six habitats. These were: first-winter cornfields, 27 per cent; two-year-old cornfields, 14 per cent; three-year-old cornfields, 12 per cent; one-year-old peanutfields, 19 per cent; dry fence rows, 27 per cent; and mixed pine-oak woodland, 14 per cent.

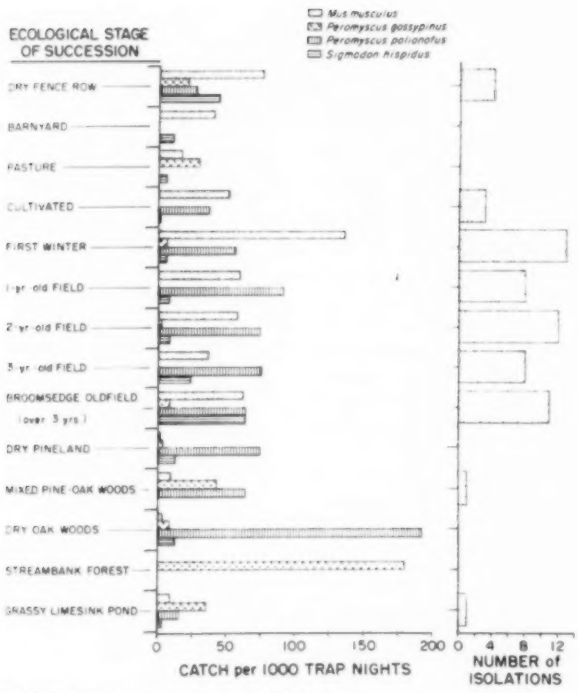
Infected house mice as determined by culture were found in 10 of the 11 habitats from which positive specimens were collected. The exception, a grassy limesink pond, gave one isolation from two cotton rats tested. Five house mice from this area were tested but gave negative results. The second isolation from a cotton rat was obtained from a specimen collected in an oldfield. One infected oldfield mouse was collected from an oldfield, one from a one-year-old peanutfield, and one pool of specimens of this species collected in a first-winter cornfield was positive.

Positive specimens of all three species were obtained only from oldfields (Table 3). In this habitat, all the isolations were obtained from rodents collected on five of 35 trap lines run. From these positive lines, one cotton rat of 35 tested was positive, one of 33 oldfield mice was positive, and nine isolations were obtained from 58 house mice. Included in the nine isolations from house mice were five positive pools containing a total of 18 specimens, so the infection rate may have been higher than is indicated by the data.

Collections from two habitats contained infected house mice and infected oldfield mice. In first-winter cornfields all isolations were obtained from specimens collected on five of 12 trap lines run. The line giving one positive pool of oldfield mice also gave three positive pools of house mice. Here again the one pool of oldfield mice and the three pools of house mice contained the six and 12 specimens, respectively, collected on the line, so the rate of infection may have been greater than is indicated. In one-year-old peanutfields, all isolations were obtained from specimens collected on four of nine trap lines run. The infected oldfield mouse was the only posi-

Table 3—Number of Isolations of Leptospiras Obtained from Three Species of Rodents Collected in Various Habitats

Habitat	Species		
	Peromyscus polionotus	Sigmodon hispidus	Mus musculus
New cornfield			2
First-winter cornfield	1 pool		4+8 pools
2-year-old cornfield			10+1 pool
3-year-old cornfield			5+3 pools
1-year-old-peanutfield	1		7
2-year-old peanutfield			1
Oldfield	1	1	4+5 pools
Dry fence row			4
Mixed pine-oak woodland			1
Grassy limesink pond		1	
Lupine field			1
Unknown			4+1 pool
Total	2+1 pool	2	43+18 pools



DHEW-PHS-BSS-CDC—Atlanta, Ga., May, 1958—58-383

Figure 1—Population Density of More Abundant Species of Rodents in Various Habitats as Indicated by Tray Success, and Number of Isolations of Leptospiras from Each Habitat

tive specimen collected on that particular trap line; however, no house mice from this line were tested. A second line run simultaneously in the same field collected five positive house mice out of the eight tested. Six oldfield mice on this second line were negative.

The isolations of leptospiras obtained from all of the rodents tested are shown together with the population density as indicated by trap success in Figure 1. It is apparent from the figure that isolations were obtained almost exclusively from habitats supporting significant house mouse populations. This would be expected since nearly all isolations came from house mice. The data indicate that sizable populations of the rodent species studied, other than house mice, probably do not perpetuate L. ballum infections.

The prevalence of infections in house mice in relation to population density is shown in Figure 2. Approximately 30 per cent of this species was infected throughout most of the range of habitats ecologically suited to its development. In oldfields, however, only 8.2 per cent of house mice were infected even though these fields supported sizable house mouse populations.

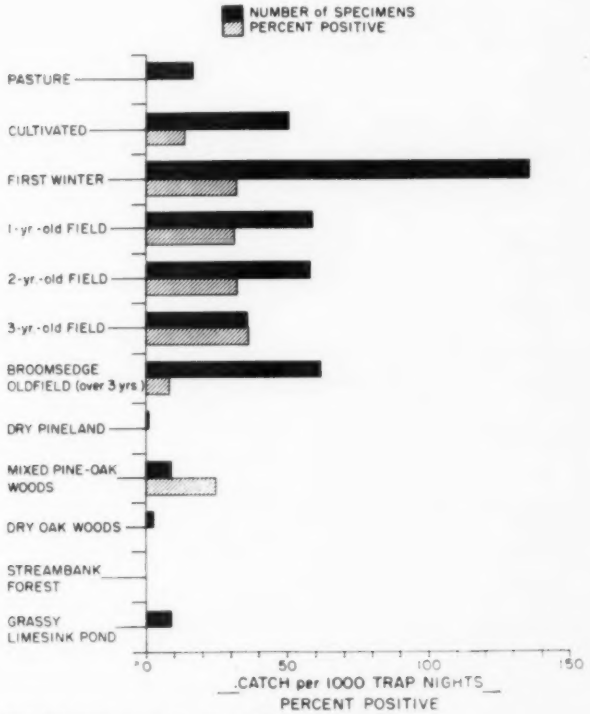
Infections isolated from rodents col-

lected from a particular type habitat always were concentrated in particular areas and absent in other similar areas supporting as large or even larger populations. For example, in oldfields all positive specimens were collected from no more than four restricted areas of 25 acres or less, and were collected with only 18 per cent of the trap nights used to collect specimens from this habitat. In first-winter cornfields, positive specimens were restricted to two areas and were collected with less than 45 per cent of the trap nights. Results from other habitats were similar. In positive habitats, a total of 12,175 trap nights was utilized. However, all positive specimens were collected on lines which utilized only 2,900 trap nights.

None of the sera from the specimens collected gave positive complement-fixation tests for leptospirosis, including those from animals infected with L. ballum despite the use of specific L. ballum antigen in the tests.

Discussion

Results of these investigations indicate that L. ballum is firmly established in house mouse populations in southwestern Georgia. Other serotypes, if they occur



DHEW-PHS-BSS-CDC—Atlanta, Ga., May, 1958—58-383

Figure 2—Population Density of Mus musculus in Various Habitats and Per cent of Specimens with Leptospiras

in rodents, apparently are rare unless the technics used were selective with regard to the serotypes which could be cultured. This possibility must be considered since modified technics were used when detecting the various other serotypes cultured from larger feral mammals collected in the same areas.[1]

From the data obtained it appears that L. ballum infections in other species of rodents are unusual, since almost without exception, infected specimens of species other than house mice were closely associated with large house mouse populations in which infection rates were high.

The failure to obtain positive complement-fixation tests for leptospiras on any of the specimens collected plus the lack of visibly apparent evidence of infection in any of the specimens indicate that in house mice this Leptospira may be a commensal parasite afforded a place of survival with stimulation of a low level of complement-fixing antibodies by the host.

Summary

Between October, 1953, and July, 1955, 2,673 rodents representing ten species were collected from 28 habitats in southwestern Georgia, and 933 were tested for leptospiras by culturing kidney tissue. L. ballum was the only serotype isolated. Positive cultures were obtained from 22 per cent of the house mice, 0.8 per cent of the oldfield mice, and 1.9 per cent of the cotton rats. Positive specimens, regardless of species, were collected almost exclusively from habitats supporting large house mouse populations. Infection rates in house mice ranged between 30 and 35 per cent in most habitats ecologically suited to sizable house mouse populations.

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It has been suggested that dangerous concentrations of bacteria occur on the surface of the water in swimming pools. This study was undertaken to check this ostensible problem. As presented here, the results indicate no need for alarm or for change in swimming pool design or practice.

SURFACE-SUBSURFACE DISTRIBUTION OF BACTERIA IN SWIMMING POOLS—FIELD STUDIES

Elliot C. Dick, Ph.D.; Ivan F. Shull, M.P.H., F.A.P.H.A.; and Alan S. Armstrong, B.A.

AMIES[3] has presented data suggesting that in swimming pools bacteria tend to become concentrated in dangerous numbers on the surface of the water; furthermore, he noted that bacteria usually found in the upper respiratory tract tend most frequently to concentrate in these surface films. Because these observations present important implications concerning the design and maintenance of swimming pools, it was deemed desirable to investigate the sanitary importance of surface films in Kansas swimming pools. The results reported herein will indicate that, although bacteria may congregate on the surface of swimming pool waters, the concentration is not alarming and should not require changes in established swimming pool design and practice.

Pools Studied

Seven outdoor swimming pools, located in Kansas City, Kans., Topeka, Kans., or the environs of these two cities were sampled without warning during the summer of 1958. The samples were taken during the busy afternoon hours. Two pools, S and O, are typical fill-and-draw pools which are hand chlorinated with hypochlorites; the remainder of the pools examined are all modern recirculating pools, but differ from one another in design of their filtration and recirculation systems. Pools P and M are equipped with gravity sand filters and peripheral open type overflow gutters with optional drainage discharge to the filters or the sewer. Pools F and R are equipped with pressure sand filters. The peripheral open type overflow gutters at Pool F are provided with optional drainage discharge to the filters or the sewer. Skimmers are provided at Pool R in lieu of overflow gutters. These skimmers discharge to the filters; approximately 50 per cent of the water is returned to the filters via the skimmers. Pool G is equipped with diatomite filters and open type peripheral overflow gutters with optional drainage to the filters or the sewer. All the filters are operated at a three gallon per square foot per minute rate which provides a complete turnover of the pool water every eight hours. In all the recirculating pools chlorine gas is continuously fed into the recirculation system ahead of the filters.

Sampling Methods

Surface and subsurface samples were taken from the deep and the shallow end of each pool. Samples of filter effluent were taken from some recirculating pools. The method used for taking surface samples is a modification of that suggested by Amies.[3] A piece of calcium alginate gauze (ca. 10 cm x 16 cm) contained in a suitable sampling box was lowered to the surface of the water, removed when sufficient water was absorbed (a few seconds), and then dissolved in 10 per cent sodium hexametaphosphate (Calgon). The Calgon solution containing the surface bacteria was plated out on a suitable medium.

The sampling box consisted of a deep aluminum loaf cake pan with the bottom cut out and replaced with a grid of nylon fishing line upon which the alginate gauze could be placed. The box was wrapped in brown paper and autoclaved before each use. A nonsterilizable plexiglass cover was prepared for the box.

The 10 per cent Calgon solution was prepared in distilled water and Seitz-filtered to sterilize. After filtration, autoclaved 1 N HCl was used to neutralize the Calgon solution to apple green with brom thymol blue. The Calgon was then aseptically dispensed in 40 ml amounts to sterile wide-mouthed screw-cap jars containing 0.1 ml of 10 per cent sodium thiosulfate. The jars containing the Calgon solution were weighed. Identically prepared jars, but without Calgon solution, were employed for subsurface samples.

At the poolside, the sterile sampling box was unwrapped and an autoclaved, weighed piece of calcium alginate gauze placed aseptically (sterile forceps) upon the nylon grid. The plexiglass top was put in place and the box grasped firmly over the top in one hand and lowered into the water until the gauze touched and was soaked. The gauze was removed from the box aseptically and placed into the tared Calgon-containing jars previously described. Subsurface samples were taken by immersing the jar about one foot under the water, opening it at that depth and then closing. Within 20 minutes the samples were placed in an ice chest and remained there until plated out (about six hours). Chlorine residual and pH of the pool water were measured at the time of sampling.

Upon returning to the laboratory, the surface sample bottles were weighed and the volume of imbibed water calculated. Both surface and subsurface samples were plated out (0.1 ml, streak method with glass rod) in triplicate on blood agar plates (Difco brain-heart infusion agar with 5 per cent human blood). After 48 hours' incubation the plates were counted. The types of bacteria present were determined in the main through observation of colonial morphology, type of hemolysis and Gram stain, but occasional fermentation reactions were performed to confirm the presence of coliforms. The general proportion on the plate of each colonial type was often determined, but absolute enumeration was not attempted.

Some changes in pool sampling technics were made during the summer. Two per cent Calgon was employed up to July 18, and 10 per cent Calgon, as recommended by Amies,[3] was employed thereafter. Starting August 12, sterile, but unautoclaved and unweighed (estimated weight) alginate fabric was employed. Starting August 1, glass beads were included in the surface sample jars in order to more thoroughly agitate the dissolved alginates. The majority of the samples were taken by life guards under close supervision, but after August 1, one of us (E. D.) took the samples. None of these procedural changes affected the counts perceptibly.

Several experiments were run to check the applicability of the procedures employed. Using either the alginate solution or saline as the original suspensory

medium, streak plates and pour plates appeared strictly comparable in estimating the number of suspended bacteria. Neither the 10 per cent Calgon nor the alginate was found to be toxic to the bacteria as long as the pH of the Calgon solution was adjusted within a few hours before use. Eight hours in the ice chest was found to be noninjurious and to have effectively prevented multiplication. If the samples of an Escherichia coli suspension were allowed to stay at air temperature (90° to 100°) for this period, erratic results were obtained.

Results

In examining the data in the tables, the reader should keep in mind the calculations used to arrive at the figures. The actual numbers found on the plates made from the subsurface samples are one-tenth the numbers shown in the tables; the actual numbers found on the surface plates are from 1/50 to 1/100 the counts shown in the tables. Since "Standard Methods"[2] suggests that in order to have statistical reliability, plates should have from 30 to 300 colonies on them, tabular surface counts of less than 2,500 should not be regarded by the reader as indisputably representative. Obviously, most surface counts on the tables fell within this unreliable range.

Table 1 presents the complete results of the summer's sampling of three different pools, each pool representing a different type, as noted. In both shallow and deep ends, the number of bacteria in the surface usually exceeded that in the subsurface; however, there were a good many exceptions to this general rule. In several instances, the subsurface counts were considerably higher

Table 1—Complete Sampling Results from Three Different Pool Types

Date	Attendance on Date	Chlorine Residual (ppm)	Bacteria per ml in Shallow End Surface	Shallow End Subsurface	Deep End Surface	Deep End Subsurface	Filter Effluent
Pool S: no recirculation or filtration system							
6/27	76	0	960	40			
7/1	166	0.2	220	60	536	100	
7/9	124	0	9,200	230	96	80	
8/2	239	0	24	90	630	40	
8/8	141	0	612	330	50	100	
8/15	147	0	2,060	2,300	490	190	
Pool P: recirculation with gravity sand filters							
7/5	1,285	0.6–0.7	775	50	50	130	100
7/18	2,764	0.4–0.7	474	80	122	120	10
7/23	1,765	0.4–0.7	1,400	190	160	210	50
8/5	2,329	0.1–0.5	50	20	0	20	no sample taken
8/12	2,215	trace	1,600	550	49	120	3
Pool R: recirculation with pressure sand filters; equipped with skimmers							
6/27	669	1.0	540	420			
7/5	811	0.75	470	40	176	20	10
7/18	1,578	0.3	1,560	1,250	142	30	no sample taken
7/23	986	0.45	89	130	43	50	50
8/5	1,163	0.5	1,250	20	4,500	7	7
8/12	1,103	0.5–0.7	17	590	114	10	13

than the surface counts. There was a great deal of variability in count from one sample to the next, despite rather uniform chlorine residuals in each of the pools. This variability often reflects rather bizarre data; for example, on July 9 in the shallow end of Pool S, the triplicate plates of the surface sample yielded three, five, and 332 colonies. On the last mentioned plate were found mainly alpha hemolytic streptococci and Neisseria, members of the normal upper respiratory flora. These "clumps" of bacteria occurred throughout the study, despite vigorous agitation of the samples.

Surprising were the relatively low bacterial counts obtained on Pool S despite the very poor chlorination practices. Pool S is a very lightly patronized fill-and-draw pool whose water is changed once per week, and the water remained rather cool during the entire swimming period. The pool was stated to be chlorinated hourly using sodium hypochlorite solution, but the residual obviously did not last long. Evidently, the hourly chlorination killed the existing bacteria and during the time lapse from hour to hour, there was insufficient contamination of the water to allow much bacterial growth at low temperatures.

Table 2 contains a composite of the summer's analyses of all seven pools. The average surface counts are higher than the average subsurface counts, the average surface:subsurface bacterial ratio being 3.4. As expected, the fill-and-draw pools had appreciably higher average counts than the recirculating ones. The average surface:subsurface count ratios were also a little higher for these pools. The average counts and the ratio of the two counts were rather similar for all the recirculating pools. The employment of skimmers on Pool R did not comparatively reduce the surface bacterial count, the opposite occurred, if anything.

The rightmost four columns in Table 2 separate the pool samples into two groups:

1. those where sample pairs had on the average more bacteria on the surface than in the subsurface, and
2. those where sample pairs had on the average fewer bacteria on the surface than in the subsurface, or in which the number of bacteria was the same in both regions.

(A "sample pair" is defined as one surface and one subsurface sample taken at the same place in the pool, i.e., a surface and a subsurface sample taken at the deep end of the pool would constitute a "sample pair.") Out of a total of 65 sample pairs, 45 fall into category (1) and 20 fall into category (2), meaning that about two-thirds of the sample pairs had more organisms in the surface waters than in the subsurface waters. It will be noted also that the average surface:subsurface ratio (5.8 to 63.8) was far higher than the average subsurface:surface ratio (1.25 to 11.6), indicating that in those sample pairs in which there was an excess of surface bacteria over subsurface bacteria, the excess was usually considerable, while in the instances in which the subsurface bacteria were in excess over the surface bacteria, the excess was not great.

The number of bacteria found in the filter effluent was consistently very low.

No quantitative data were collected concerning the qualitative distribution of bacteria between the surface and subsurface regions. It was definitely noted, however, that potentially upper respiratory bacteria such as alpha-hemolytic streptococci, Neisseria, and micrococci were present in both regions. Micrococci, both hemolytic and nonhemolytic were the most frequently encountered bacteria. Coliforms were rarely found.

Discussion and Conclusions

Although the surface-subsurface sampling results do indicate that there may be concentration of bacteria in the surface film, the concentration does not

Table 2—A Summary of Average Surface and Subsurface Counts and Surface:Subsurface Count Ratios for the Seven Pools Studied

Pool	Type of Pool*	Average Filter Effluent Count/ml	Average Attendance on Sample Dates	Average Chlorine Residual (PPM)	Average Surface Count/ml	Average Subsurface Count/ml†	Average Ratios	Total Number of Sample prs (Surface: Subsurface)	I Sample prs with Surface:Subsurface Count Ratio >1		II Sample prs with Subsurface:Surface Count Ratio 1 or >1	
									Number Pairs	Average Ratio	Number Pairs	Average Ratio
S	F D	–	131	0.03	1,352	324	4.2	11	8	11.8	3	2.3
G	R-D	13	1,511	0.56	684	213	3.2	7	5	20.5	2	1.25
P	R-GS	41	2,072	0.41	468	149	3.1	10	6	5.8	4	11.6
R	R-PS-S	20	1,052	0.6	809	233	3.5	11	8	93	3	11.6
F	R-PS	15	392	0.41	398	131	3.0	8	6	63.8	2	1.36
M	R-GS		746	0.77	954	395	2.4	10	8	46.6	2	1.9
O	F D		500‡	1.1	2,257	471	4.8	8	4	35.7	4	7.5
							Av = 3.4	Total = 45			Total = 20	

* F D = Pool without recirculation and filtration systems of any kind, i.e., fill and draw.
R D = Pool with recirculation system and diatomite filters.
R GS = Pool with recirculation system and gravity sand filters.
R-PS-S = Pool with recirculation system, pressure sand filters and equipped with skimmers.
R PS = Pool with recirculation system and pressure sand filters.

† Taken about one foot below the surface.

‡ Estimated from incomplete figures.

appear to be alarming. Almost all average surface or subsurface counts fell within the standards set by the American Public Health Association[1] for swimming pool waters to be labeled as "fair" (between 200 and 1,000 bacteria per ml). On the average there were about three times as many bacteria on the surface as in the subsurface; however, in about one-third of the paired surface-subsurface samples, the subsurface counts were equal to or higher than the surface counts. It is even possible that the concentration of bacteria on the surface could be spurious. Because of the high dilutions employed, two or three contaminating colonies on a plate streaked with a surface sample would raise the bacterial count in the surface water by a factor of from 100 to 300. On the other hand, the dilution of the subsurface water was only tenfold and incidental contamination would have greatly lessened effect. It was rarely possible to obtain the 30 to 300 colonies on a plate which is the number recommended by "Standard Methods"[2] for reliable counts.

Amies[3] has suggested that, because of the excessive number of bacteria present on the surface of the swimming pools, the surface water should be wasted to avoid undue contamination of the main body of the pool. During the early stages of this study it had been planned to test for this possible danger by determining whether the quality of the filter effluent could be changed by alternately wasting the water passing into the overflow gutters, or recirculating it. The summer began with all pool operators allowing recirculation of the overflow water. It soon became evident that the filter effluent of all the pools was essentially sterile (only from 3 to 4 colonies per plate), indicating that no improvement was possible and that nothing could be gained by diverting the water to the sewer. Since these very low counts were maintained over the summer, it certainly does not appear that the recirculation of the surface water is a dangerous practice.

It was noted throughout the study that the organisms predominant on the plates made from both surface and subsurface waters were organisms often found within the normal upper respiratory tract. Micrococci, both hemolytic and nonhemolytic, were encountered frequently; alpha-hemolytic streptococci and Neisseria were found not infrequently. Many times these organisms were found together in clumps; presumably, they are introduced in droplets of saliva or of nasal mucus and remain in droplets until killed by the chlorine. The high rate of occurrence and the relative chlorine resistance[4] of some of these pharyngeal organisms indicate that their presence might be useful as a good test of swimming pool sanitation. "Standard Methods"[2] suggests that swimming pool water be analyzed in the same way that drinking water is analyzed, i.e., with standard plate counts and coliform indexes; these technics, particularly coliform tests, are designed to detect fecal contamination and do nothing to assess contamination with organisms specifically from other areas of equal or more importance. It seems possible that the use of blood plates streaked uniformly with a sample of the swimming pool water would be more informative and probably cheaper, since the coliform test would be eliminated. Any competent bacteriologist could readily learn to recognize the colonies typical of pharyngeal organisms, coliforms, and so forth, and confirmative tests could be performed where necessary. It has always been difficult to associate disease directly with unsanitary swimming facilities, but there is a "general impression" that disease of the ear, nose, and throat are prevalent among users of swimming pools. Perhaps better qualitative bacteriological technics applied to swimming pool waters would help clarify this issue.

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Epidemiology in Nursing

The role of the nurse in epidemiology will be the subject of a workshop offered by the Catholic University of America School of Nursing from June 10 to 21. A faculty made up of specialists drawn from across the country will review current needs, research, trends, and implications for nursing in the areas of environmental health, long-term illness, mental health, maternal and child health, and communicable diseases. The application of epidemiological principles will be discussed in terms of hospital nursing, of public health and other community nursing services, and of nursing school curricula.

Lucille E. Corcoran, R.N., assistant professor of public health nursing, and Marjorie J. Corrigan, R.N., instructor in public health nursing, will direct the workshop. Further information from Roy J. Deferrari, director of workshops, The Catholic University of America, Washington 17, D. C.

A broad picture of the health program sponsored in Iran by the United States as part of its technical and economic assistance is offered in this article. Special attention is given to the role of the physician in this type of program, and the need for these programs to emphasize medical education.

THE DOCTOR IN INTERNATIONAL HEALTH—UNITED STATES SPONSORED PROGRAM IN IRAN

Thomas Moulding, M.D., and Franz Rosa, M.D., M.P.H.

DURING the postwar period the United States has become increasingly aware of its interdependence with other nations. As a result of this awareness our government has instituted a program of technical and economic assistance for underdeveloped nations throughout the world. Iran has been a recipient of such assistance since 1951. The program in Iran was a comprehensive one, affecting all phases of the Iranian economy, with coordinated activities in many fields, such as health, education, agriculture, and commerce. The health program was an important and very effective segment of this over-all effort.

Iran is a spacious country with about twenty million people in an area of 628,000 square miles, approximately two-thirds the size of the United States east of the Mississippi. Most of the country is a mountainous dry plateau averaging 5,000 feet in elevation. This nation, previously known as Persia, has a proud history of several great civilizations, but has lagged behind in technical matters during the Industrial Revolution. Now there is an awakening desire to progress in the field of modern technology, and the adequate resources which supported the previous great civilizations are still available for application by this technology in promoting the health and well-being of the Iranian people. The function of the United States Technical Cooperation Program has been to encourage and help direct this awakening desire. This article describes the operation of the health program up to 1957.

In the administration of this program there have been several changes over the last six years. Initially it was called the Point 4 Program, later the United States Technical Cooperation Mission to Iran, and the United States Operations Mission. For purposes of clarity in this article it will be referred to as the United States Technical Cooperation Program, or simply the (TCP) Technical Cooperation Program. At the present time it is administered by the International Cooperation Administration of the State Department with the Public Health Service of the Department of Health, Education, and Welfare providing personnel and technical consultation when requested.

The health program itself was patterned after the "servicio organizations" established in Latin America. A special agency of the Iranian Ministry of Health called the Public Health Cooperative

Organization was created so that the United States and Iran could effectively pool their allocated funds, supplies, equipment, and personnel.[1] It was directed jointly by American and Iranian physicians, up to the middle of 1956, after which the Americans became advisers and the Iranians assumed leadership and most of the expense. With the enthusiasm, imagination, and cooperation of the Iranians in the organization, substantial progress has been made in the few years of its existence.

Those who have had the opportunity to serve as physicians in this program have had an enriching, satisfying experience. Despite many obstacles, difficulties, and at times serious set backs, as much if not more has been accomplished in a short period of time than could reasonably be expected; for the future a pattern has been created to utilize the constructive energies of the Iranians for much greater progress. Admittedly, errors have been made and the program has weaknesses, but most of these shortcomings can be traced to an insufficient number of qualified Americans willing to accept the responsibility of these overseas positions. There are many extremely capable people in this work, but there have never been enough of them. The development of the health phase of these programs presents an important challenge to the American medical profession as well as a unique opportunity for service for those physicians willing to accept the challenge.

Preliminary Surveys

Fortunately, prior to the establishment of the TCP in Iran the health situation was objectively surveyed, thus aiding immeasurably the planning of subsequent work. In 1948 Iran began a seven-year program for improvement in all fields of the national economy, to be financed by revenues from the sale of oil. The year before (1947), in connection with this plan, the Overseas Consultants Incorporated of New York surveyed the health situation in Iran as a whole and made recommendations for improvement.[2] In 1950 the International Health Division of the Rockefeller Institute made a detailed study of the health conditions in a small representative rural area at the invitation of the Ministry of Health as a further basis for the development of a health program.[3] These studies presented a more definite picture of the low level of sanitation and the prevalence of communicable disease, known to exist. A definite degree of nutritional deficiency was found by a World Health Organization survey of school children[4] and a United States sponsored survey of Iranian troops.[5] The use of opium was also found to be widespread, although in recent years the government of Iran has been taking strong measures to cope with this problem through education and legislation. An index of the extent of illness in the nation was the infant mortality rate of 216.8 per 1,000 live births for the area studied in detail by the Rockefeller Foundation. A much higher rate is believed to exist in other parts of the country. By contrast the infant mortality rate in the United States in 1956 was 28 per 1,000 live births.

Equally important in the planning of the TCP were the surveys of the existing medical organizations. The most striking finding was the emphasis placed on the treatment of disease with a contrasting lack of emphasis on its prevention. The Iranian Ministry of Health maintained 115 hospitals and 350 clinics devoted primarily to the care of the sick with very few activities for the prevention of illness. Various charity organizations maintained similar services.

In the field of public health and preventive medicine, the Ministry of Health for many years had maintained a quarantine service together with efforts at nationwide communicable disease report-

ing. A malaria control program had been started on a limited scale. Through the cooperation of Iran's leading laboratories, vaccines were prepared and limited immunization programs were carried out. But on the whole most of the health activities in Iran were directed toward treatment rather than prevention. Furthermore, the teaching in the few medical schools of the country was also primarily devoted to classical curative medicine, with little or no insight given the students as to what could be accomplished through preventive medicine and public health work. In a country where the great majority of illnesses could be prevented this represented an unfortunate misdirection of effort.

This misdirected pattern is typical of many less industrialized countries and is largely the responsibility of Western medical education, which often does not place sufficient emphasis on public health. In Iran and in other less technically advanced countries, most medical activities have been introduced by nationals who have been trained in Europe or the United States and have returned home to set up practice. Frequently in the past and continuing today, foreign students while training in the West have been directed toward learning the very latest in curative medicine, often in a limited specialty or subspecialty; thus they are largely unprepared to meet the broader needs of their nation and to become leaders in programs for protecting the health of the population as a whole.

Thus, the major task of the TCP in Iran was the introduction of public health methods and projects into the country. Even more important was the introduction of the public health concept.

Malaria Control Program

Malaria control was the most extensive and immediately successful activity of the TCP.[6] It was generally agreed that malaria was Iran's leading health problem, with the estimated occurrence of five million cases annually in a population of approximately 20 million. Previously, in every malarious area of Iran a great deal of worker productivity had been lost because of illness due to malaria. The most highly infected areas were potentially the most productive. Although malaria control had been demonstrated in limited areas of Iran with the help of the World Health Organization, the Iran Foundation, and the Near East Foundation, it was not until the United States aided the program that country-wide control could be attempted. With the help of American supplies and technical and administrative assistance, a nationwide program of malaria control was begun in 1951. That year 5,000 villages were sprayed with DDT; the program rapidly expanded in 1952 to 11,100 villages; and by 1956, 19,500 villages were sprayed, giving protection to about five million people. In many areas where malaria prevalence five years ago ranged from 80 to 90 per cent, there has been no transmission for a number of years. Naturally, this has resulted in better health for the people and increased worker productivity.

The scientific data necessary for the operation of the program were provided by the Institute of Malariology, established as a cooperative endeavor by the University of Teheran Medical School, the Ministry of Health, the World Health Organization and the United States Technical Cooperation Program. The administrative aspect of the program and field operations were strengthened by a series of courses in malaria control for regional leaders given in Teheran during the slack season. With these personnel and organizations the program is continuing today without American funds but primarily with Iranian resources as well as with material assistance from UNICEF.

Demonstration Programs

Unlike malaria control, most of the other public health programs could not be instituted on a mass scale so quickly, chiefly due to lack of funds and trained personnel. Consequently, the projects had to be introduced on a training and demonstration basis, so that technics might be adapted to the Iranian culture; the Iranians could learn new methods; and could then introduce them to all parts of the country. Such demonstration and training projects eventually were provided in all the ten ostans (states) of the country.

Although these programs were initiated with joint American-Iranian leadership, it was realized that eventually they must be directed by the Iranians themselves. To provide a core of leadership for that eventuality, qualified Iranians, who have proved themselves capable through work with the TCP, were sent to various universities in the United States or to the American University in Beirut, Lebanon, for graduate training on the condition that they would return to Iran and work with the program. Between 1951 and 1956, 117 scholarships were issued to doctors, nurses, engineers, health educators, statisticians, and hospital administrators; 57 of them receiving training in the United States and 60 in Beirut, Lebanon.

Environmental Sanitation

Fundamental to the health of any community are certain basic sanitation measures, which unfortunately are lacking in most areas of Iran. Until 1951 only one city in Iran had a treated and piped water supply. In the villages, the natives obtained their drinking water from streams, from open irrigation ditches along the street, or from unsanitary shallow wells. Latrines either were absent or were improperly constructed and improperly used. Such conditions had the inevitable consequence of a high incidence of typhoid, paratyphoid, shigellosis, nonspecific diarrhea, ascariasis, and ancylostomiasis. Also tragically prevalent throughout the country was blindness due to trachoma, a disease spread in the presence of filth, flies, and the lack of simple personal hygiene.

To meet the water supply problem for those cities and larger towns which were willing to pay part of the cost, the United States contributed technical assistance and materials for the installation of powered deep wells and underground dis-

Figure 1—Typical Unsanitary Village Well (Somewhat Better than Average)

tribution systems. For villages, the program was based on the construction of smaller, sanitary deep and shallow wells; the villages contributing the required labor and some of the money and the United States providing materials, such as small powered pumps, hand pumps, and pipe. To meet the excreta disposal problem, concrete latrine slabs were made available for purchase on a cost basis, and the villagers were instructed in the construction and the importance of latrines. Efforts to control trachoma, as well as other communicable diseases, were made by instructing the villagers in simple habits of personal hygiene, directing them in village clean-up campaigns to reduce the number of disease-transmitting flies and other vermin, and aiding them in constructing sanitary bathhouses or converting existing bathhouses into sanitary installations.

From 1953 to 1956, 875 shallow wells, 59 sanitary bathhouses, and 17,674 latrines were completed. Seventy-one deep wells for larger cities were installed, and their distribution systems are now being completed. So that the greatest value could be obtained from these projects, they were carried out only after a period of preliminary public health education and only after the communities had shown their understanding by a willingness to cooperate through the contribution of labor and partial financial support.

The work in the villages was carried out primarily by a group of young men trained as subprofessional sanitation workers, called sanitarian aids. Their usual responsibility was that of health instruction in the villages; carefully and patiently showing the villagers the importance of simple sanitation measures, and teaching them technics for the construction and maintenance of sanitary installations, such as wells, latrines, and bathhouses. Through their efforts they have brought about marked improvement in the health habits and health standards of the communities where they have been located; undoubtedly they will continue to be key figures in the development of rural areas.

These sanitarian aids as well as their leaders had to be trained after the program was started in 1951, because prior to that time there was no engineering or sanitation section in the Ministry of Health and no trained sanitary engineers or sanitarians in the country. Therefore, to provide leaders, men had to be drawn from other fields of engineering and given short courses and inservice training by American sanitation experts in Iran. Others received formal courses in sanitary engineering in the United States or at Beirut, Lebanon.

With these men as a nucleus the training program for sanitarian aids was instituted. Initially this was carried out in the various regions, but in 1952 the TCP together with the Near East Foundation established a permanent school for sanitarian aids in a rural area near Teheran. This school provides a six-month course in basic sanitation for young men with approximately 9-12 grades of education. Since then over 350 young men from all parts of the country have graduated and returned to their communities, mostly in rural areas, and are actively engaged in sanitation work. The significance of this school is recognized even on an international level so that neighboring Afghanistan has sent personnel for training.

Specific Communicable Disease Control Programs

In the winter of 1954-1955, 123 cases of smallpox were found in Tabris, a city in northwest Iran. As soon as possible a mass vaccination program was set in motion, and over 213,000 persons were vaccinated in three weeks, bringing the epidemic to an end. Subsequently, a few

cases or local outbreaks of smallpox occurred in nearly all parts of the country, including Teheran, and additional mass vaccination programs were instituted to control them. Since 1952 over eight million persons have been vaccinated in Iran, including those living in cities, rural areas, and even tribal areas.[7] Similar but less extensive immunization programs were carried out for other diseases: 825,000 persons having been inoculated against diphtheria; 280,000 against tetanus; 280,000 against typhoid; and 90,000 against pertussis.

During investigation of various epidemics it was interesting to find that some of the villagers had attempted to protect themselves against smallpox by inoculating their arms with material taken from an active smallpox lesion. This procedure, supposedly common in the days before Jenner, results in some protection for the individual because it usually causes a relatively mild case of smallpox. Unfortunately, however, these induced cases constitute an additional hazard for the rest of the community, since they become an added source of infection that can be transmitted to others, causing the usual severe form of the disease.

Important as the vaccination programs

Figure 2—Loudspeaker Truck with Illustrations of Smallpox Cases (Used During Mass Vaccination Campaign)

were in health protection they also provided the stimulus for an indirect benefit, namely, improved reporting of disease. Soon after the mass vaccination programs were instituted the reported nationwide incidence of smallpox rose very rapidly. We believe this was due partly to better investigation of reported cases and partly to the increased interest of physicians or public officials in reporting the disease, once they learned that they could gain the protection of vaccination for their communities if the proper authorities were notified. The experience with smallpox has helped create interest in the reporting of other communicable diseases.

During the past four years a demonstration venereal disease control program was established in Iran primarily through the direction and assistance of the WHO, with the TCP aiding whenever possible. Surveys of venereal disease incidence in different population groups were carried out; a demonstration venereal disease hospital, laboratory, and case-finding organization established, and courses in venereal disease control provided for health personnel. Iranians working with the TCP have been enrolled in such courses and have subsequently begun venereal disease control activities as part of their regional programs. Similarly, the preliminary work for the eventual development of a tuberculosis control program was directed and assisted by the WHO and UNICEF in association with the TCP. This consisted of tuberculin skin test surveys, x-ray surveys, and demonstration BCG vaccination programs.

Laboratory Activities

To provide a firm scientific basis for the development of public health programs, it was realized that good laboratories were essential. Laboratory confirmation is particularly important for immediate control of potentially devastating disease; such as plague, which could develop from the sylvatic plague present in Iran today, as well as typhus and cholera, which occur periodically in epidemic form. Laboratory confirmation is equally important in controlling the more routine epidemic diseases; such as typhoid, diphtheria, brucellosis, and pertussis and the chronic endemic diseases; such as tuberculosis, syphilis, and helminthic infestations, all of which are prevalent in Iran.

Prior to the beginning of the TCP, Iran had a few good laboratory facilities with trained personnel; the Rasi Institute, the Pasteur Institute, and the University of Teheran, all located in Teheran. With the aid of the TCP the activities of these three facilities were increased, and new laboratories were established in most ostans (states) throughout the country; considerable equipment was brought in from the United States. To provide the necessary personnel, six laboratory technicians were trained in Beirut, Lebanon, and 37 technicians were trained in Teheran. To help maintain high standards a technical laboratory bulletin was published monthly in Teheran for the benefit of all persons interested in laboratory work.

Public Health Education

A public health program depends greatly on health education. A large part of the responsibility of any person working in public health, whether he is a doctor, a nurse, or an engineer, is health education. Nevertheless it was found advantageous in Iran to have a separate Division of Public Health Education, one of the major functions of this division being to exploit fully the possibilities of so-called mass media of education.

Early in the program, the Health Education Division designed simple, effective health posters, understandable to some extent even by those who could

not read. These were produced in large quantities and today can be seen throughout Iran, even in remote villages. Similarly, informative health pamphlets and articles for newspapers were prepared and widely distributed. Two regular periodicals were developed; one was a technical magazine for public health personnel and the other a nontechnical magazine for general public distribution. The radio was utilized for periodic health talks in the larger cities and surrounding areas. Health movies and film strips applicable to the Iranian culture were produced and widely shown in both urban and rural areas by truck-mounted projector units.

By utilizing various mass media for preliminary public education, it was found to be much easier to introduce health programs, like malaria control, sanitation, or maternal and child health activities. These media were especially effective at the time of epidemics. The combined use of radios, loud speakers, and posters made it possible to summon all the inhabitants in a threatened area for immediate immunization. Without these modern devices the mass immunization programs would have been far less effective.

In this field of health education the Iranians deserve special credit. At no time was there an American health educator in Iran to serve as an adviser; therefore this program which proved very effective was created primarily through the initiative and determination of the Iranians themselves.

Figure 3—An Anti-Opium Poster (the Opium User Is Being Figuratively Hung from a Typical Opium Pipe)

School Health

For many years the Ministry of Education has attempted to maintain a school health program, especially in the larger cities. This program like most other health programs in Iran was directed toward the treatment rather than the prevention of illness. With the stimulus of the TCP and as a cooperative effort between health educators, doctors, sanitary engineers, public health nurses, and school authorities, a more active school health program was instituted and oriented toward prevention. The revised program included immunization, health education for school children, and the provision of sanitary wells and latrines for those schools and communities which would contribute toward their cost. The school teachers were made an integral part of the program. Primarily through the efforts of the Health Education Division, health teaching was introduced into a series of summer refresher courses for teachers conducted by the Ministry of Education. With this as a stimulus, the teachers are introducing the fundamentals of health to their students in the grade schools and high schools throughout the country. Considering the receptiveness of children for new ideas, such teaching can be expected to have one

of the most significant long-range effects of any of our programs.

Maternal and Child Health

Women in Iran usually live a retiring, veiled existence, as required by the Moslem culture, and are left out of important projects in their communities. For the most part they are grossly ignorant of the fundamentals of sanitation and nutrition.[8] To surmount these obstacles and to allow mothers to participate fully in activities for the protection of themselves and their families, a maternal and child health program was instituted, consisting of prenatal clinics, well-baby clinics, mothers' classes, and home visiting. The major function of the program was routine immunization of children and the health education of mothers. The clinics also provided periodic physical examinations for both mothers and children together with some treatment, but they were primarily health teaching centers, which stressed personal hygiene, general sanitation, the fundamentals of nutrition, and infant feeding.

The nursing staff of these clinics consisted of 55 trained nurses and midwives, who received special training in public health after joining the program, and 125 young girls with from eight to ten grades of basic education, who were given a one-year course as subprofessional workers called public health nurse aids. These women were effective in overcoming the problem of cultural modesty and were able to improve the health habits of the mothers who regularly attended the clinic. Thus, they introduced a new approach to the problem of promoting the health of the Iranian family.

The care of the pregnant woman at the time of delivery is a serious problem in a less technically developed country like Iran, deliveries usually being attended by some older woman who serves as the village midwife. These women are illiterate, have had no formal training, and whatever midwifery they know has been passed on to them by their elders. The system perpetuates of a great deal of superstitious and ritualistic practices, some of them exceedingly harmful. Often their technics result in gross contamination of the birth canal, causing a high rate of puerperal sepsis. Equally tragic are the various procedures used to stop bleeding from the infant's umbilical cord, ranging from covering the cord with an unsterile rag or sometimes a spider web to rubbing it in cow dung, often resulting in neonatal tetanus.

In planning to deal with the problem, it was realized that there were far too few doctors and that strong cultural taboos prohibited male doctors from attending deliveries except in the rarest of instances. Similarly, there were far too few trained midwives to fulfill the needs of the nation within the foreseeable future. The only possible approach for an immediate effect was to attempt to improve on the existing system. Thus, some of the illiterate village midwives were brought into the clinics for short courses given by the public health nursing and midwifery staff. The village midwives were subsequently supervised, and continued stress was placed on measures such as the need for cleanliness at the time of delivery, prohibition of all internal manipulations, the proper handling of the umbilical cord, and the use of antibiotic ophthalmic ointments to prevent ophthalmia neonatorum. Though these village midwives are still relatively helpless against the hemorrhagic complications of pregnancy, disproportion, and toxemia, this simple training is reducing one of the major causes of mortality, the infectious complications of pregnancy.

In the initial phase of the Technical Cooperation Program emphasis was placed on the construction of new community health centers or the opening of new health centers by the reconversion

of existing buildings. Six new health centers were constructed and 15 buildings reconverted. Later the newly opened centers served as demonstration units for personnel of the Ministry of Health and charity organizations to show them how treatment or curative medicine could be combined with preventive medicine in a single community operation. The World Health Organization helped set up one of these clinics to serve as a national maternal and child health demonstration center. As a result of this work, health teaching and immunization are becoming a regular part of the activities of the former curative clinics of the Ministry of Health in some areas of the country. One of the leading charity organizations, "The Red Lion and Sun," realizing the importance of preventive work, had 50 girls trained as health visitor aids for preventive work in their organization and requested that more be trained. This natural grafting of preventive activities onto the existing dispensaries will probably be the line of development of future maternal and child health activities in Iran.

Hospital Administration and Nursing

Although the program in Iran was primarily concerned with preventive medicine, assistance with Iran's curative installations, the hospitals and treatment clinics, was also provided whenever possible. This was primarily technical assistance or advice, with financial aid given only on a limited basis. American architectural consultants have aided and are continuing to aid in the planning of various hospitals and health centers which Iran intends to build in the next few years. An American hospital ad-

Figure 4—Depicited Here Is a Class in Simple Hygienic Midwifery for the Illiterate Village Midwives

ministration consultant has aided the Iranians in planning the equipment for these buildings, and advised as to staffing and the most suitable location to best serve the people of Iran. The public health demonstration projects established by the TCP were decentralized in administration so that eventually, as local financial support increased, the local governments and communities could take over their operations. It is believed this will help lead the way for the Ministry of Health to revise its highly inefficient system of centralized finance and control for its many hospitals and clinics throughout the country. Efforts to coordinate government and charity activities have been made to reduce duplication and overlapping. To promote efficient services, preliminary courses for hospital administrators have been completed and other courses planned for all ancillary hospital personnel.

The most serious hospital staffing problem is the shortage of trained professional nurses. In 1956 there were only an estimated 360 graduate nurses in the entire country of 20 million. As small as this figure is, it represents a great improvement over the previous decade. Only recently has nursing begun to gain recognition as a profession. In the past a nurse was ranked as a low type of servant or scrub woman, and the hospitals were staffed by untrained and usually illiterate women. Women of the better classes did not care to be involved in such a degrading activity.

The TCP has helped with this nursing problem in several ways. In addition to establishing an extensive public health nursing program, it assigned a nurse educator and nurse administrator to a new hospital in Shiraz, a city in Southern Iran. They aided in the establishment of a nursing service and school of nursing. An American nurse educator surveyed the existing schools in Iran, their teaching programs, and clinical facilities to establish a base line for the planning of nursing education and the evaluation of future progress. A national nurses association was formed to help create interest and gain greater recognition and social prestige for the profession.

In August of 1956, a nationwide conference on nursing was held and attended by medical leaders, nurses, and midwives from all parts of the country as well as by international leaders in nursing. The conference made specific recommendations, which were accepted by the Ministry of Health for the standardization of nurses' training, expansion of training facilities, and the enactment of a nurse practice act. More important, it helped acquaint the medical leaders in Iran with the seriousness of their nursing shortage, and what had to be done if they ever intended to expand their hospital facilities effectively. At present the profession of nursing appears to be more firmly established and is receiving more recognition.

The Role of the American Physician

The U. S. Technical Cooperation Program in Iran is similar to our foreign aid programs in many countries. Of course much of the public health work in these programs is not carried out directly by physicians, but rather by a team of physicians, nurses, sanitary engineers, health educators, bacteriologists, administrators, and other professional personnel. What then is the specific role of the physician?

First—For the development of health programs in less technically advanced countries, there are important administrative skills, which can effectively be contributed by American physicians. Public health programs represent the work of many different categories of personnel directed and coordinated by doctors of medicine trained and skilled in public health administration. This administrative or leadership role is often

avoided by physicians, but it is, nevertheless, a crucial task. The impressive advance in health standards in the United States over the past 75 years has been greatly influenced by those physicians willing to assume the difficult and often thankless task of founding and organizing the public health departments and related institutions which serve us so admirably today. The fact that many underdeveloped countries lack effective public health programs is of course in part due to their lack of resources in budget and personnel, but not entirely so. Many of these countries have significant resources, but lack physicians who have been interested or trained and skilled in administration and public relations which were needed to carry out the difficult organizational work. Western physicians can provide this skill and aid the physicians in other countries in the development of their public health programs.

Second — There are some essential technical and investigational activities which require the training and background of physicians. Malaria control and other communicable disease control programs depend directly on accurate knowledge of the incidence of the disease in question. Surveys of diseases of children at the maternal and child health clinics aided in the planning of the sanitation program in Iran. In Iran and other underdeveloped countries, there is considerable opportunity for medical research; for instance, a study on the epidemiology of trachoma was started and needs to be completed.

Third — There is important medical teaching which could be greatly aided by American physicians. They can help in the training of nurses, sanitary engineers, laboratory personnel, health educators, and Behdars, but they are particularly needed to teach the medical students and doctors of these less technically developed countries. Sooner or later the public health programs started by American aid and leadership will have to stand alone and, for that eventuality, well trained national leaders and the support of the medical profession as a whole are bady needed. To develop such leaders and such support it is essential that every student of medicine be taught the objectives, benefits, and technics of public health and be made to feel that this is part of his responsibility as a physician, something which is usually not done today. Such public health teaching should be closely integrated into the teaching of clinical medicine, and both should be advanced as much as possible. Highly qualified American physicians by teaching in foreign medical schools can be instrumental in achieving this objective.

Throughout much of the less technically developed world, there is an intense desire for increased knowledge. Too few facilities exist to fulfill this desire. Thousands of students come every year to the United States or Europe for training. Ten times as many, equally intelligent and equally desirous of training, have to stay at home. This is especially true in the field of medicine. Though most countries have some very well qualified European or American trained physicians, there are too few of them to develop adequate medical schools rapidly. One well recognized approach to this problem is to help more students come to the West for training. The other, frequently neglected approach, is for highly qualified Western physicians to serve in the medical schools in these countries in a teaching and advisory capacity.

Important as such educational work is to the less technically developed areas in the world, it is also important to the United States. When we assist in the training of students of these lands we are in reality assisting in the training of their future leaders; for from the educated classes nearly all of their future leaders must arise. It is not unreason-

able to believe that if we play a part in their education, they will come to understand us better, form friendships, and build loyalties resulting in improved relations between our countries in the future. Though we cannot hope nor reasonably except to have such leaders agree with us on all points, we can expect to reduce much of the misunderstanding which exists in our international relations today.

In Iran, Americans did not participate in the teaching programs of the various medical schools to any great extent up to 1957. Many factors contributed to this; one of the most important of which was the over-all lack of American physicians available for overseas work, particularly physicians with a background of teaching. Encouragingly since 1957 a program of Americans teaching at the medical school in Shiraz, Iran, has been started.[9]

Opportunities in International Health

The largest single barrier to the development of Technical Cooperation Programs has been the difficulty in recruiting qualified Americans for this work. This has been especially true in the case of physicians, although considering what overseas work has to offer a physician, this should not be the case. Despite intensive recruiting nearly half of the positions for doctors needed in the program in Iran were never filled. It was necessary to staff the program in part with young physicians, drawn from other fields of medicine. Some of them had little experience or training in public health, but the work in Iran proved sufficiently interesting and challenging to make most of these physicians decide to remain in this field and obtain further training in public health.

Overseas positions offer a physician many advantages, such as the chance to see and work with a different culture and the chance to deal with a different group of diseases. The living conditions for Americans overseas and the financial compensation are adequate. But probably the greatest advantage to a physician is the opportunity to offer service of a significance rarely possible in the United States. In fact it is difficult to find positions in the United States where a few physicians and their staff with so relatively little expense can effectively promote the health of so many others. The progress of the United States Technical Cooperation Health Programs is completely dependent on the recruitment of qualified dedicated personnel.

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Journal of Public Health

EDITORIALS

A Guide to a Community Health Study

Out of the need to cope with the increasingly complex health problems that arise out of group life, there has evolved an awareness of the crucial importance of community action in the promotion of health and the prevention and treatment of disease. While some may yearn for the simplicity of the past, and the alleged superiority of a golden age, we live in a highly interdependent society where urbanization increasingly dominates the scene. In such a situation, health is intimately and intricately related to the operation of the social organism.

To develop policy and to apply knowledge in our situation, it is essential to know with what we are dealing. The first prerequisite of community policy is the willingness and the ability to define health problems. And in turn the ability to define problems requires appropriate instruments. The American Public Health Association has a long tradition of providing instruments and assistance for the determination of community health problems.

In this tradition is the new, revised edition of the "Guide to a Community Health Study" which has just been issued. The last revision of this important instrument was carried out in 1955. Now, five years later, it has been completely revised and very substantially expanded, both in scope and in the number of pages (from 60 to 231). The current edition mirrors the very profound changes that have been going on in the field of community health. Its various sections include those functions that are now considered to be elements in a comprehensive adequate community health program. Thus, for the first time, there is a large section on community mental health. Considerable attention is also devoted to adult health, focusing on noncommunicable disease and its consequences. Disaster planning is another area which is emphasized.

The new Guide can be used by community groups, with the cooperative assistance of professional public health workers. It is the first in a series of documents prepared by the Committee on Public Health Administration of the Association for assistance in the development, maintenance, and improvement of community health services. A second document, "Administration of Community Health Services" is to be published as one of its manuals for public officials by the International City Managers' Association. A third document to be en-

titled "Indices for Community Health Services," intended for professional measurement of the effectiveness of health programs, is in preparation.

The new Guide is recommended to all community health workers as a useful instrument. However, those who will use it are urged to read the Introduction and to dwell on this sentence in it: "While any interested individual or group may start such a study, its final success will depend upon the cooperation of all interested community groups working together toward a total community study."

An Impossible Address for the Coming Public Health

SPREADING URBANIZATION and the problems which attend it have been given attention in the Journal on a number of occasions. The implications for the health and welfare of our people have been emphasized. Yet evidence of effective preventive or remedial action is still scant indeed. In fact the current situation is succinctly summed up by a quotation from a recent cheerfully satirical novel. "So this fellow said: 'Cheer up, things could be a lot worse.' So I cheered up and sure enough he was right, things got worse."[1]

These reflections are stimulated by an incident reported in that lively house organ, "The Pleasures of Publishing."[2] The editor relates that "In the course of a trip to California last summer, we found the attenuated environs of Los Angeles extremely hard to navigate and often had to admit that we were quite hopelessly lost. Someone in the Beverly Hills Post Office apparently feels the same way we did and is giving official recognition to the matter. At least, that is the happiest explanation we have found for the fact that a letter sent from Columbia University Press to someone in Beverly Hills was returned stamped with an official rubber stamp that read 'Impossible Address.'"

Let us note that the "impossible address" is not limited to one place, one city, or one state. It is the result of an increasingly impossible situation, a situation with which most of the 168 metropolitan areas of the country must cope. These areas, which in 1959 contained almost 58 per cent of the American people, have been subjected to unprecedented changes in the last decade. Large-scale migrations of population, shifting land use, the disorganization of residential neighborhoods, fundamental changes in transportation technology and travel habits—these are only a few of the elements and aspects of the interrelated process of spreading urbanization, the metropolitan explosion. But there is still more. As the final report of the Joint Committee on Washington Metropolitan Problems pointed out in 1959, the "population is pressing against the limits of such natural resources as water supply. Its growth outstrips the capacity of existing sewage disposal plants. Where growth is most rapid, as at the suburban fringe, the shortage of government facilities such as schools, highways and parks is especially acute."

Underlying this stark picture is an unresolved but fundamental question of public policy: How are the resources of the United States to be allocated and used in the next decades? What part should be devoted to public purposes and what part should be left to private consumption? Several months ago Edwin L. Dale, Jr., called attention in the New York Times to a new debate that has flared up, a "debate inspired by a single idea: that the basic trouble with American society is that we devote too much of our resources to increasing an already affluent level of private consumption, and too little to public services of all kinds."[3] Indeed, the real debate has barely started. One may expect that in

the coming years many views will be expressed on what the United States can afford, and about the rate at which the real wealth of the country can be expanded, the rate of economic growth. There will be, as there are now, conflicting interpretations based on the same economic and social facts.

Nevertheless, there are certain indubitable facts that cannot be explained away. More Americans are being born and more Americans live longer. The age curve bulges at both ends, and it will be shaped this way for some time to come. Each of the groups involved, the young people and the old people, has specific needs: educational and recreational facilities, housing, and more pointedly for the aged medical care and income maintenance. Hand in hand with these go the needs for community services for the entire population, utilities, transportation, health facilities, prevention of stream and air pollution, to mention only a few.

At the same time, however, as Robert A. Lovett, former Secretary of Defense, pointed out before a Senate committee, time, productive capacity, and brains are being devoted to the creation of some of the most frivolous consumer goods. Yet, many view the production of some the most significant and civilizing services with misgiving. Public services are considered a burden and a necessary evil. Nonetheless, as that literate and provocative economist, Professor Galbraith has commented, there are a remarkable number of needs and services in a community that "must be provided for everyone if they are to be provided for anyone, and they must be paid for collectively or they cannot be had at all. Such is the case with streets and police and the general advantages of mass literacy and sanitation, the control of epidemics, and the common defense."[4]

What the resources are to serve these needs, and how they may be employed best to serve the community, are questions beyond the scope of this discussion. However, certain points are clear. There is an imbalance between the private and public sectors of production and consumption. The community is relatively poor in public services, and it is within this context that public health must orient itself for the next tasks. Furthermore, this situation carries with it the necessity to think through the goals of public health. This task is inevitable, if the public health profession is to have a meaningful and significant place in the America that is now coming into being. Let us hope we shall not have to wait for the situation described by Samuel Johnson when he observed: "Depend on it, when a man knows he is going to be hanged in a fortnight, it concentrates his mind wonderfully."

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1960 Is the Golden Anniversary Volume
of the American Journal of Public Health

COMMITTEE ON AFFILIATED SOCIETIES AND REGIONAL BRANCHES

THIS PAST YEAR, my first as chairman of this committee, has been an experience that I am most pleased to share with you now. My report begins with the success of last year's meeting, chaired by our President-Elect, Dr. Malcolm H. Merrill, of the representatives of Affiliated Societies and Branches. Forty-three out of 48 affiliates were represented at the second annual "get-together" and there were representatives from Alaska, Delaware, New Jersey, Vermont, and Wyoming as well. Two major recommendations were made by this committee to the Executive Board as a result of the group discussion:

Recommended: that the rebate system be discontinued at the earliest time felt practicable by the Executive Board. Those Affiliated Societies voicing an objection should be reviewed individually and a cash subsidy be considered until the Affiliated Society can make the necessary transition. The cash subsidy is not to exceed the amount of what the rebate would be; it would be for those state associations demonstrating a need, and the subsidy should not exceed a period of three years after the adoption of the By-Law amendment.

Few states expressed a real need for the rebate money (whereby APHA pays $1.00 to the state association on each joint member), and the sentiment of the group was toward more services in lieu of the amounts involved. Some of the suggested services included assistance in program planning, provision of speakers, promotion of memberships, more legislative information, studies on inservice training, etc. The Executive Board accepted this recommendation and directed the Committee on Constitution and By-Laws to amend the By-Laws, effective 1961. Meanwhile, this committee will do all that it can to help provide those suggested services.

The second recommendation related to the 75 per cent membership requirement that states "both new and existing Affiliated Societies shall maintain on their membership rosters a minimum of 75 per cent of the APHA members and Fellows in their areas, according to the registered address on the roster of the APHA." Because so few societies met the requirement, it was recommended that the Committee on Eligibility be lenient in its review of each case and that the APHA should assist the affiliates in promoting membership to increase their present APHA percentage.

During the year, APHA provided addressed letters and envelopes of invitation to its members to join their state associations. Twenty-one Affiliated Societies reported that, as a result of 3,737 invitations, 204 APHA members have joined their state associations, as of October 31, 1959. It is expected that the Committee on Eligibility will review the entire situation and will report to the Governing Council during this Annual Meeting.

Interest was expressed at last year's meeting on what effect a joint billing of state and APHA members would have on promoting membership. This committee recommended that a pilot study be made with one affiliate. The Pennsylvania Public Health Association agreed to work with the APHA and, as a result, increased its membership by 107 new members. Invitations to join PPHA accompanied each bill to APHA members, while members of PPHA were billed and invited to join the APHA. The experiment brought 41 new members into the

APHA. Undeniably, the experiment proved successful, but variation in fiscal years, differences in dues, and nonautomatic record-keeping present some obstacles to doing joint billing with all Affiliated Societies. It certainly should be considered for future services to the affiliates.

A test membership promotional campaign was made among non-APHA members of four other Affiliated Societies: West Virginia, Maryland, Oklahoma, and Wisconsin. A total of 1,333 letters of invitation brought 13 applications for membership in the two months preceding this Annual Meeting.

The Committee on Affiliated Societies and Regional Branches met in Des Moines, Iowa, for its spring meeting, at the time of the Annual Meeting of the Middle States Branch, APHA's third and newest branch. It was there that the committee planned the program for the third annual "get-together" of Affiliated Societies representatives. Two major topics were selected for discussion: Membership and Legislation. Again, I report that the Affiliated Societies and Branches were well represented.

The committee has learned more about the thinking of state and branch associations, and they have given direction to the committee for some time to come.

Two surveys were completed this year: one on various practices, policies, and activities of the Affiliated Societies and Branches; and another on the "why" and "why not" of APHA membership. The study of Affiliated Societies revealed the different requirements for membership, the variety and number of Sections, fairly standard meeting programs, and some very interesting committee activities. Much of the information gained by the study will assist this committee in forming recommendations which it believes will advance the purposes of the affiliates. For example: the study showed that there are ten Affiliated Societies that require a membership applicant to be in public health or health-related work. This committee has recommended that the membership requirements of all affiliates be more in line with the APHA's requirement: "Persons professionally engaged or with a serious interest in public health work . . . shall be eligible for election. . . ." The survey did show the results of two previous committee recommendations to the affiliates: one had to do with the continuity of the secretary's office; and we are pleased to find that 22 societies either elect or provide for a secretary to serve for more than one year, frequently for three, and that five societies place no limit on length or number of terms. It is gratifying, too, to note that there are now 36 Newsletters or Journals published by the Affiliated Societies and Branches, as compared with 21 in 1956.

The purpose of the second survey was to assist the committee in answering some questions on why people did or did not join the APHA, questions on Annual Meeting attendance habits, Journal readership, etc.

Following a pretest, a 5 per cent sampling of the membership was made and questionnaires were sent to 583 APHA members and Fellows. There was an 81.9 per cent response. Questionnaires were also mailed to 761 Affiliated Society members who are not APHA members, and this mailing resulted in a 63.3 per cent response. Comparison of the returns with known APHA Section distribution and regional distribution shows reasonable conformance and leads us to believe that the findings of the survey may properly be generalized to the total membership. From the survey, we are able to sketch a profile of an APHA member:

—age in the late forties (median age is 48.7 years);

—profession-physician (second, a nurse and then, an educator);

—salary of almost two-thirds is $7,500 a year or more (median salary is $9,464.28);

—one out of three has attended two or more Annual Meetings in the last five years;
—most likely a government employee;
—has been in public health almost 20 years (median—16.2 years) and in the APHA almost 11 years (median—10.5 years);
—two out of three say they belong to their local affiliate.

In the questionnaires to nonmembers, there are no similar distributions for comparison. We can only conclude that the data regarding nonmembers give an approximation of the characteristics and attitudes of nonmembers of the APHA. The Affiliated Society member looks like this:

—age likely to be about 45 (median age is 45.0 years);
—profession more likely to be a nurse or a sanitarian;
—salary of less than $5,000 a year (median—$4,332.05);
—almost two out of five have attended two or more of their state society's meetings in the last five years;
—very likely a government employee;
—about 12 years in public health (median—11.4 years) and in local affiliate about 7 years (median—6.6 years);
—only one out of five has ever been to an APHA Annual Meeting;
—almost three out of four say they see the Journal anyway—but only one of these three sees it regularly (i.e., one of four nonmembers claims to see the Journal regularly).

Much more information is being tabulated now for a full report to be presented later. One item that will be of interest to you is the response to the question, "Why do you belong to the APHA?" The most frequent reasons given, in this order are: (1) acquaintance with professional colleagues; (2) identification with a professional organization; and (3) subscription to the Journal.

But, on the other hand, the most frequent reason given by Affiliated Society members when asked why they did not belong to the APHA was "I cannot attend the Annual Meeting." Obviously, we have an educational job ahead of us to impress upon the members of Affiliated Societies that there is more to membership in a national professional organization than attendance at Annual Meetings. This was the feeling of the Michigan Public Health Association when they reported to this committee that there was a need for a better understanding of the APHA and recommended that a brochure be prepared to help answer this need. I am pleased to say that a new brochure is available for use by the Sections and by the Affiliated Societies. A second brochure is to be prepared that will describe the benefits of belonging to the state and branch associations.

It is anticipated that some of the answers to our problems will come from the operation of Regional Offices. One has been established in San Francisco with the Western Branch and I can report to you now on one full year's activities. The beginning was largely devoted to establishing the office and becoming acquainted with the people and the programs of the Affiliated Societies in the Western Branch area. The director has attended the Annual Meetings of nine Affiliated Societies and has participated in 22 Executive Board meetings of affiliates. A program of service activities has resulted from these discussions. They are: Secretarial services, whereby the Western Regional Office has arranged to handle all mailings (bills, newsletters, etc.) of three affiliates and is negotiating to assume such functions for all the Affiliated Societies in the region. A speaker's team for the Annual Meetings of four state associations has been arranged for the week of November 1 this year. Funds are being sought now to provide another team of speakers for five affiliates that will meet in the spring. A series of three Institutes on Association Management for secretaries and other officers of Affiliated Societies has been inaugurated. It is anticipated that the discussions on organizational char-

acteristics, officers' duties, mechanics of operation, program planning, etc., will contribute much to the proposed procedural manual for the operation of state associations.

Under the auspices of the University of California School of Public Health and the APHA Western Regional Office, a continuing education program has been established to serve the western states. The program is staffed by a full-time educational director who will work in the field with local planning groups in setting up educational programs. One committee from the School of Public Health will study the priorities for training and education; select the faculty and plan development for each educational experience developed under the program. Another committee, with a region-wide representation, will identify needs for continuing education and recommend the development of workshops, seminars, institutes, etc., in the field to the faculty committee. Aside from these activities, the Western Regional Office has served as the Executive Office of the Western Branch, APHA, involving the staff in administration duties, meetings with their officers and committees, and Annual Meeting planning.

Some committee plans for the future include the publication of a procedures manual for the officers of Affiliated Societies and Branches; a study of health agencies' policies toward employee's membership and participation in professional associations; assisting in the organization of public health associations in those states where none exist now and the development of criteria and a plan for evaluating the Regional Office operation.

In conclusion, I think we all can be proud of the advances made to date. But certainly not to the point of relaxing our efforts. Instead, we must devote more of our energies to building the memberships of the APHA and the affiliates; we must develop effective communication to and from the Affiliated Societies and Branches; we must encourage the Sections to work with their counterparts in the state and branch associations; APHA and its affiliates must do more constructive "collective thinking" toward making each of us stronger and more effective than ever. It can be done, it will be done, to the benefit not only of the public, but of all who work for the health of the public.

HAROLD M. ERICKSON, M.D., Deputy Director, Department of Public Health, Berkeley 4, Calif., Chairman

Report of the chairman of the Committee on Affiliated Societies and Branches to the Governing Council at the Eighty-Seventh Annual Meeting of the American Public Health Association in Atlantic City, N. J., October 18, 1959.

COMMITTEE ON EVALUATION AND STANDARDS

LAST YEAR'S REPORT discussed briefly the immediate task which the Committee on Evaluation and Standards had set out for itself in trying to develop working definitions both for evaluation and for standards. The purpose of the definitions was to assure agreement in the meaning of these two terms among all committees and Sections in the Association.

During the period in which the committee has attempted to find a satisfactory definition, the members have come to realize more fully the magnitude of the problem. One or two actions have been initiated that have caused other committees of the Association to wonder how far the definition of standards could and should be extended. Nevertheless, we believe that some progress has been made along these lines during the past year. Good faith and a common interest in attaining the desired goal has prevented any serious misunderstanding among the various committees involved.

Development of the Committee's Modus Operandi

Along with the determination to develop practicable understandings of the place of evaluation and standards, there has been a new concept adopted into the role of the committee itself. Heretofore, much of the thought of the committee had been occupied in reviewing the actions of subcommittees. Most of the time of the committee meetings had been taken up in considering and reviewing submitted reports of subcommittees or in answering queries referred by subcommittees. Little or no time was available for consideration of the broad needs of the Association in evaluation and standards, or for the development of a far-ranging program for the guidance of the Association and the public health profession.

A specific device for releasing the committee from routine functions was the elimination of some of the responsibilities for subcommittees. This had the desirable concomitant of making other units in the Association aware of their responsibilities in setting standards and evaluation. It is our belief that a stronger Association committee structure can be developed by relying on Sections and Program Area Committees to conduct so-called "operation" functions. Such a philosophy visualizes Association-wide committees, such as the Committee on Evaluation and Standards, as being consultative, advisory, policy-developing, and policy-leading in the formulation of new objectives, practices, and standards.

It will be impossible, at this time, to relieve the Committee on Evaluation and Standards from all operational functions. There are certain committees that involve Association-wide interests. An example is the Subcommittee on the Control of Communicable Diseases. The interests of this committee are not confined to any one Section or Program Area because practically every Section is involved in some portion of the document prepared by this group. The work of this subcommittee does not seem to be appropriate for a Program Area Committee currently and the Committee on Evaluation and Standards plans to continue sponsorship of this committee.

There are other committees that do not meet this Association-wide condition. One of these is the Committee on Evaluation of Laboratory Research on Multiple Antigens. This is largely involved with epidemiologic interests and so, with the concurrence of the Executive Board, this committee was transferred to

the Epidemiology Section early this year. The policy of transferring functions that the Committee on Evaluation and Standards has been fulfilling to other groups has been adopted in other areas as well.

The Subcommittee on the Hygiene of Housing has been transferred to the Program Area Committee on Environmental Health. The keen interest in housing of the Program Area Committee on Environmental Health indicated the wisdom of this transfer. A Subcommittee of the Coordinating Committee on Laboratory Methods, that on Antimicrobial Agents (Disinfectants), has been transferred to the Laboratory Section. Other subcommittees will subsequently be transferred when the time is appropriate and the Technical Development Board agrees to such reshuffling of activities.

New Committees Formed

Although the Committee on Evaluation and Standards is attempting to divest itself of operating committees, the fact is recognized that it may still be necessary to organize a new committee for a developmental period. Last year, the report discussed the committee's exploration into new areas of interest for the purpose of determining whether or not the Association should be taking leadership in setting standards in various fields. Several areas are currently under investigation by referees. One area, that on prepaid dental care plans, is being studied actively now by the Dental Health Section. We have also requested the Program Area Committee on Medical Care Administration to consider the report of our referee in that area. Study by the committee in two other areas has resulted in the organization of two new subcommittees, viz., Standards for Screening and Periodic Health Examinations under the chairmanship of Dr. Frank W. Reynolds, and Health Surveys with Dr. C. Howe Eller serving as chairman. Following the general policy of transferring to Sections and Program Area Committees responsibilities for operating committees, this latter committee has been transferred to the Program Area Committee on Public Health Administration. As referees report on other topics, other committees may be organized or the active participation will be obtained of some Section or other Association unit in pursuing the subject in more detail.

Sharing of Information

One of the most difficult aspects of a complicated machinery involving many units, such as the American Public Health Association, is that of communication in keeping all committees informed of action contemplated or taken by other committees. The Committee on Evaluation and Standards has not done a perfect job of keeping other committees advised of activities. Although the Technical Development Board provides an excellent means for exchange of information among those committees represented, it can not provide all of the necessary interchange.

The Committee on Evaluation and Standards has been following the practice of inviting two or three Sections to send representatives to its meeting at the time of the Annual Meeting. This shall be continued so that all Sections can have a chance to learn eventually of our activities, can get a better understanding of what the Association program is with respect to evaluation and standards, and to see how the committee operates.

In the future, copies of minutes of our meetings will be distributed to Section chairmen, to Program Area Committees and to other standing committees in the hope that other groups of the Association will learn of our actions earlier than this annual report makes it possible.

Our Growing Book Shelf

There is no need to remind you that many of the technical reports originating in this committee are published as Association documents. This means that they must be accepted by the Governing Council before publication. During the 1959 Annual Meeting, the committee is requesting the Governing Council to approve publication as official Association documents revisions of three currently published Association reports. A fourth may be available and added by the time of the Annual Meeting. The three are as follows:

1. Standard Methods for the Examination of Dairy Products (11th edition).
2. Standard Methods for the Examination of Water, Sewage, and Industrial Wastes (11th edition).
3. Control of Communicable Diseases in Man (9th edition).

Each member of the Governing Council has received in his packet of material sent by the Association office, the summaries of the changes proposed for these revisions. I would like to remind you that "Standard Methods for the Examination of Water, Sewage, and Industrial Wastes" is sponsored and published jointly by the American Water Works Association, the Federation of Sewage and Industrial Wastes Associations, and this Association. Our Association has the responsibility for printing and sales of the volume.

It is possible that by the time of the meeting, the committee shall be able to present for Governing Council consideration a revised "Bacteriological Examination of Shellfish and Shellfish Waters." The original report has been out of print for some time.

During the coming year, other reports will be developed under the Committee on Evaluation and Standards and will probably be ready for publication. These will not be published as official Association statements but will bear only the authorization of the committee for publication. The reports involved are:

1. Diagnostic Procedures and Reagents (4th edition).
2. The Control of Nutritional Diseases.

The volume on "Diagnostic Procedures and Reagents" is undoubtedly well known by many members of this Association. The third edition has been out of print for more than a year and the new edition is anticipated with satisfaction.

"The Control of Nutritional Diseases" is a new volume. In format, it will follow in a very general way that of "The Control of Communicable Diseases in Man." The time and expense that have gone into the preparation of this manual will be amply repaid if the report is received and used as a companion manual to the communicable disease one.

Roundup of Subcommittee Activities

Although the committee has been attempting to transfer to other units some of the responsibilities than can be met more effectively by these other groups, the Committee on Evaluation and Standards still has a formidable committee structure. Much of the accomplishment of the committee comes directly from these subcommittees and a brief review of their activities is therefore in order.

The Coordinating Committee on Laboratory Methods is a parent committee of considerable importance. It is responsible for coordination of action of the various laboratory methods committees that are preparing formal reports for publication by the Association. In addition, it has the responsibility of assuring representation of all interested Sections on committees preparing laboratory methods volumes. Special problems frequently arise in connection with the preparation of these volumes. An illustration is that of a request from a plating media manufacturer for accept-

ance of his product as meeting the specifications for plating media given in "Standard Methods for the Examination of Dairy Products." Many health departments adopt Standard Methods as the official and legally approved methods for conducting examination of dairy products. Unless a plating medium meets the requirements of the volume it cannot be used for legal reasons. Thus, it was important for this manufacturer to have the recognition of his product by the Association. The Coordinating Committee developed a method for determining the satisfactory nature of plating media. By following this method of examination, it has been possible for the manufacturer to obtain the necessary approval.

Another related problem is that of the continual examination of media that have already been accepted as meeting the specifications of "Standard Methods for the Examination of Dairy Products," and for the "Examination of Water, Sewage, and Industrial Wastes." At present, the manufacturer is expected to maintain the quality of approved media. The Coordinating Committee has wrestled with this matter for several years. It has expressed the viewpoint, concurred in by the Committee on Evaluation and Standards, that the Association should not enter the products-approving field. On the other hand, the Coordinating Committee recognized the need to assure continuing uniformity in culture media used in the examination of dairy products and in water. Largely through the activities of the Subcommittee on Standard Methods for the Examination of Dairy Products and the Coordinating Committee on Laboratory Methods, the interests of several national organizations have been gained. A separate body, sponsored by the interested organizations, is suggested as the certifying agency. There are indications that this certifying agency may be formed in the near future.

Operating under the Coordinating Committee are the following subcommittees:

Diagnostic Procedures and Reagents
Laboratory Examination of Shellfish
Laboratory Methods for Determining Nutritional Status
Laboratory Methods for the Bacteriological Examination of Air
Standard Methods for the Examination of Dairy Products
Standard Methods for the Examination of Water and Sewage

The activities of most of these subcommittees have been referred to in foregoing statements on pending publications. One not so discussed is the Subcommittee on Laboratory Methods for Determining Nutritional Status. A suggestion that preparation of a laboratory manual on methods for determining the nutritional health status of an individual was considered by the committee but not otherwise acted upon because of the recent publication of a related volume on that subject. The present objective of the subcommittee is to study new, and possibly unproved, laboratory methods. There is hope that the subcommittee will be able to work closely with the Nutrition Board of the National Research Council and the Interdepartmental Committee on Nutrition for National Defense. This subcommittee will also work closely with the Subcommittee on Control of Nutritional Diseases of the Committee on Evaluation and Standards. Suggestions that the Food and Nutrition Section might take over the activities of this committee have not so far resulted in any change.

The Subcommittee on Communicable Disease Control operates directly under Evaluation and Standards. It will complete, at a two-day meeting just preceding the Annual Meeting, the manuscript for the ninth edition of "Control of Communicable Diseases in Man." A special travel grant made to the Association has made it possible to bring to the commit-

tee meeting the representatives of the British Ministry of Health, the Department of Health for Scotland, and the World Health Organization. The volume will be published in January, 1960, and the price will be $1 per copy with reduced prices for quantity orders. Prepublication orders have been encouraging, and indicate another public health best-seller.

A new subcommittee of Evaluation and Standards is that on Standards for Screening and Periodic Health Examination. Formation of this committee resulted from the recommendation made by the referee assigned to study the subject. The committee has just been organized and has not had an opportunity to outline its future program. A meeting of the committee will be held during the Annual Meeting.

The probable publication in 1960 of a new manual, that on the "Control of Nutritional Diseases" has been previously reported. The Subcommittee on Control of Nutritional Diseases has completed preparation of the first draft of the manuscript. It will be published under the authority of the Committee on Evaluation and Standards. The intent is not to propose this as an official Association report in the initial edition but to do so at a later time.

The Subcommittee on Health Aspects of Air Pollution has been discussed in previous reports. The former chairman resigned owing to the pressure of other duties. A new chairman, Dr. Louis D. Zeidberg, has been appointed and the subcommittee reconstituted. A meeting is planned of the newly reorganized subcommittee in Atlantic City during the Annual Meeting. It is too early to state the program of the committee but indications are that stress will be placed on studying, from existing reports, the medical indications of the effects of common air contaminants on the health of man.

The need for close coordination of the Committee on Evaluation and Standards activity with that of other committees of the Association is best demonstrated by the newly organized Subcommittee on Health Surveys. The specific program of this committee will be developed when it meets Monday noon at the Annual Meeting. The general subject is one that the Executive Board had expressed interest in and, of course, one in which the Program Area Committee on Public Health Administration has a direct concern. The subject of health surveys is so broad that many elements of the Association can study the matter to advantage. Dr. Edward Press, former field director for the Association, has prepared for the committee a list of individuals and organizations now known to be working in the health survey field.

Another activity of considerable importance is that being directed by our referee on Laboratory Methods for the Examination of Air. The importance of air contamination and its possible effect on health need not be dealt with in this report. Your committee has been unable to learn of any accepted manual of laboratory methods for the examination of air suitable for public health laboratories. We are exploring with other organizations the desirability and feasibility of preparing, on a cooperative basis, such a manual. The Engineering and Sanitation Section has specifically requested preparation of such a guide.

Several changes have been made in the chairmanship of committees since the committee list was published in March, 1959. A listing of the present committees operating under Evaluation and Standards, and their chairmen, follows:

Coordinating Committee on Laboratory Methods—Howard L. Bodily, Ph.D.

Subcommittee on Diagnostic Procedures and Reagents—Marion B. Coleman and Albert H. Harris, M.D.

Subcommittee on Laboratory Examination of Shellfish—Cornelius B. Kelly

Subcommittee on Laboratory Methods for

Determining Nutritional Status—William J. Darby, Ph.D.

Subcommittee on Laboratory Methods for the Bacteriological Examination of Air—F. W. Gilcreas

Subcommittee on Standard Methods for the Examination of Dairy Products—Luther A. Black, Ph.D.

Subcommittee on Standard Methods for the Examination of Water and Sewage—F. W. Gilcreas

Subcommittee on Care of Cases of Communicable Diseases in General Hospitals (Standby status)—Franklin H. Top, M.D.

Subcommittee on Communicable Disease Control—John E. Gordon, M.D.

Subcommittee on Control of Nutritional Diseases—William H. Sebrell, M.D.

Subcommittee on Health Aspects of Air Pollution—Louis D. Zeidberg, M.D.

Subcommittee on Standards for Screening and Periodic Health Examination—Frank W. Reynolds, M.D.

Subcommittee on Scope—Robert F. Korns, M.D.

Referee on Laboratory Methods for the Examination of Air—Leonard Greenburg, M.D.

Harry W. Bruce, D.D.S., accepted membership on the Committee on Evaluation and Standards subsequent to printing of the Committee List. We are glad to have representation from the public health dental specialty.

As mentioned previously, the Subcommittee on the Hygiene of Housing has been transferred to the Program Area Committee on Environmental Health. The Subcommittee on Antimicrobial Agents (Disinfectants) has been transferred to the Laboratory Section. The Epidemiology Section has accepted responsibility for the Subcommittee on Evaluation of Laboratory Research on Multiple Antigens. In each case, Evaluation and Standards had requested and obtained liaison representation on each of the newly organized committees to make it possible to carry over the past experiences of this committee.

We believe that this has been a productive year for the Committee on Evaluation and Standards and for the Association. There has been progress in developing a new philosophy for the committee. The purpose is to transfer as rapidly as possible responsibility for operating committees and to confine our activities, as much as possible, to consultation, advice and planning. The Association must be kept in the lead in pointing out new areas for public health participation and interest. If the Committee on Evaluation and Standards is able to keep the Association alert to the needs in evaluation and in the development of standards, we feel that we will have met our assigned responsibility.

Once again, it is a pleasure for me to express thanks for the generous contributions of all who have participated in the work of the committee. I commend them to you for your respect and thanks.

BERNARD G. GREENBERG, Ph.D., Professor of Biostatistics, University of North Carolina School of Public Health, Chapel Hill, N. C., Chairman

Report of the chairman of the Committee on Evaluation and Standards to the Governing Council at the Eighty-Seventh Annual Meeting of the American Public Health Association in Atlantic City, N. J., October 18, 1959.

COMMITTEE ON PROFESSIONAL EDUCATION

WHILE the Committee on Professional Education has continued to examine its programs in the light of the Arden House Task Force Report, it has, in addition, introduced several new activities. This year might be called one of consolidation, on the one hand, and experimentation, on the other. Several long-standing activities were crystallized into permanent projects and several others were tested in order to provide a basis for future work. At the same time, the CPE is expected to decide on several programs on the basis of available staff, funds to be acquired, and so forth.

This report is divided into three major portions corresponding to fields of activity in which CPE may be considered as operating—undergraduate education, graduate education, and postgraduate education in public health. In addition, a small section is included on Organizational and Membership matters.

Undergraduate Education

1. One of the problems with which the CPE is faced concerns the training of certain categories of public health workers on an undergraduate level, that is, the bachelor's degree in health education (or school health education), in sanitation, in laboratory work, and perhaps in one or two other fields. While information is easily available regarding the courses given in those universities where there are schools of public health, there are many courses which are given in colleges about which little data are available. In the field of public health nursing, information is on hand at the National League for Nursing headquarters and, thus, in this particular field, the absence of data is not as acutely felt as in the other categories mentioned above. The CPE is at present considering how to locate the places where such curricula are given and how to list those institutions. The question of an accreditation program may be considered at a later date. In the field of school health education, the American Association of School Health Educators has indicated a willingness to cooperate.

2. The CPE is also considering the teaching of public health in undergraduate professional schools such as medical, dental, veterinary, etc. In the medical category the APHA is one of the constituent agency members of the National Advisory Committee on Medical Education and it is possible that some steps may be taken through this group. In addition, contact has been made and relationships established with the Association of American Medical Colleges who had expressed an interest in promoting the teaching of public health and preventive medicine in their member institutions. The exact methods by which any such program will be worked out are still under consideration by the CPE.

In the field of veterinary medicine, some concrete steps have been taken. Purdue University has undertaken to establish an undergraduate course in veterinary medicine and has appealed to the APHA for assistance in formulating public health content. Consultation services were given by the staff at a full day's meeting and it is expected that courses will be established in accordance with the recommendations made.

Similarly, the Education Committee of the American Optometric Association requested assistance in establishing the public health content of its undergraduate course and the staff provided consultation services in this respect as well.

Graduate Education

1. Accreditation — The CPE recommended that schools of public health once accredited remain on the accreditation list until removed and the Executive Board accepted this suggestion. The 13 schools which were previously accredited on an annual basis are now on the continuing list.

During the academic year 1958-1959 four schools were visited by the accreditation team. This amounts to a frequency of about one visit to a school every three years. In the new team approach it is anticipated that the consultation component will gradually overtake and exceed the inspection factor in these accreditation visits.

2. Educational Qualifications—In 1959 two Reports of Educational Qualifications were published, that of Veterinarians (January) and of Executives of Voluntary Health Organizations and Health Councils (May). Subcommittees are at present working on Reports for Nutritionists, Public Health Nurses, Social Workers, Hospital Licensing Personnel, and Statisticians. New policies and procedures regarding the formation of subcommittees are being prepared by CPE with the aim of facilitating work of the subcommittees and preparing the reports more effectively.

3. Residency Accreditation — The American Medical Association has requested that a public health consultant accompany their field representative at the time of an accreditation visit to a public health residency area. At the suggestion of the Residency Review Committee for Preventive Medicine our staff member made a trial visit of this nature in order to determine how much time and effort would be required. As a result of this visit, conversation and consultations with the American Board of Preventive Medicine and with the American Medical Association are expected to result in a panel system whereby geographic considerations will minimize the time and trouble involved in calling someone to assist the AMA staff. Further progress in this program must await additional experiences in the field.

4. Studies on Recruitment of Various Public Health Personnel are proceeding and it is expected that more intensive efforts during the coming year will provide the CPE with substantial information and may even indicate what steps should next be taken.

5. In collaboration with the Association of Schools of Public Health, and the State and Territorial Health Officers, the APHA has entered into a Joint Project entitled "Study of Graduate Education in Public Health." A committee representing the associations will meet during the meeting in Atlantic City and formulate objectives, methods of work, sources of funds, etc. It is expected that this will be a comprehensive study of all graduate education in public health, not just that carried on in the accredited Schools of Public Health.

6. Clearing House of Information on Schools of Public Health—The CPE has developed and begun to implement the project on the collection of information from schools of public health in more extensive fashion than previously. The project has been set up so that it can be repeated each year and the information thus compared from one year to the next. There are three portions to the questionnaire which is to be sent out every year. Part I is a Student Census Card sent in September to be filled out by each student on registration. Part II of the Data Form is a general questionnaire, and Part III is the Faculty Statistical Card, which each teacher is expected to fill out annually. The last two parts are sent in the spring and the returns are now being analyzed for the 1958-1959 academic year. If the information is suitable for publication in an annual education number of the Journal,

this proposal will be put before the Editorial Board at a later date.

7. The CPE through its staff member is cooperating with the Pan American Sanitary Bureau, Regional Office of the World Health Organization, with respect to a Conference of Directors of Schools of Public Health in Latin America, held in Mexico in November, 1959. Consultation took the form of assistance in preparation of documents for the conference. The CPE consultant made visits to some of the schools in Latin America in order to report on them to the conference. It is expected that a close relationship will thus be established with all the schools in the Western Hemisphere, with CPE as one of the collaborating bodies.

Postgraduate Education

Informal discussion has been held regarding the role of APHA, particularly CPE, in the field of postgraduate or continuation education, and a full-scale discussion is expected at future CPE meetings. In the meantime, the course for health officers held in Louisville in January, 1959, was attended by the CPE staff member who is assisting the organizing committee in the evaluation of this project. This project will be used as an example of a short-term refresher course, which could be conducted for a particular category of public health workers. Whether CPE feels it should continue this kind of activity will be decided in the near future.

Organization and Membership

Two subcommittees were dissolved at the spring, 1959, meeting of CPE, namely, that on Salary Study and that on Field Training. The former was dissolved because other agencies are making these studies and are able to keep them current, whereas the subcommittee of CPE did not have the resources for this project. The Subcommittee on Field Training was dissolved because it was felt that a new frame of reference was required to do a comprehensive job in this respect. The chairman of the subcommittee is preparing a new brief for presentation to the current meeting of CPE.

A new advisory committee has been established for the Professional Examination Service. The staff of this Service will henceforth report directly to this subcommittee, which will consider its affairs in detail and subsequently will in turn report to CPE.

During the year 1959, Drs. Blackerby, Felix, and James were reappointed for three-year terms. Dr. Marion Murphy was newly appointed for a three-year term, and Dr. Ruth Huenemann for the unexpired term of Dr. Hardy, who resigned from the committee.

PHILIP E. BLACKERBY, JR., D.D.S., W. K. Kellogg Foundation, Battle Creek, Mich., Chairman

Report of the chairman of the Committee on Professional Education to the Governing Council at the Eighty-Seventh Annual Meeting of the American Public Health Association in Atlantic City, N. J., October 18, 1959.

COMMITTEE ON PUBLIC POLICY AND LEGISLATION

THIS COMMITTEE met on December 19, 1958, in New York City with all members present. A careful review was made of the committee's responsibilities and area of concern as described by the Executive Board. In compliance with the directives set forth by the Executive Board, the PP & L Committee established the following priority objectives and operating procedures:

A. Devise and implement a program whereby the APHA would become recognized as an authoritative source of information on public health matters.

B. Prepare policy statements based on Governing Council approved resolutions on current and proposed health programs. The committee will forward to the Executive Director suggestions for preparation of additional policy statements as the need for such statement may arise in the future.

C. Request the establishment of a permanent correlation of the activities of APHA's Resolutions and PP & L Committees. It was the opinion of this committee that a far greater degree of consistency is necessary and possible between the committee charged with the responsibility of framing and recommending the resolutions and establishing the policies of the Association and the committee designed to implement these policies. A review by the committee of all resolutions adopted by the Association in the past ten years revealed that well under 50 per cent could be used as a basis for a policy statement with any practical value. The committee further recommended that in the absence of a favoring recommendation from the Resolutions Committee, previously adopted resolutions relating to specific federal legislation expire at the time of the first annual meeting of the Association following the meeting at which the resolution was adopted.

D. The committee recommended that in its testimony to the Congress the APHA should function in the role of expert witness, providing authoritative information and data on health programs being considered.

E. The committee emphasized the desirability of establishing effective relations between APHA's Washington office and both the legislative and executive branches of the federal government, and directed the staff of the Washington office to take appropriate steps to accomplish this objective.

The committee further wished to emphasize the importance of close liaison and cooperative working relations between the Association and its affiliates and branches. It requested the staff to make every effort to provide affiliates and branches with all possible information on legislative issues with health implications being considered by the Congress as well as with specific information as to the position of APHA, if any, and the reasons for such a position.

The committee made an analysis of the public health issues which would come before the Congress in its 1959 session. Utilizing resolutions previously adopted by the Governing Council, the following six policy statements were framed and forwarded to the Executive Board for approval:

1. Federal Assistance for Training of Public Health Personnel—The Association supports federal participation in the training of public health personnel in the form of assistance to public health agencies, to qualified educational institutions, including accredited graduate schools of public health, and to individuals through scholarships.

2. Radiological Health—The Association supports continuing and coordinated surveillance studies on radiation exposure to the general public and adequate systematic long-time studies of the possible health effects of such radiation.

3. Air Pollution—The Association recom-

mends the extension of the Air Pollution Research and Technical Assistance Act (PL-159, 84th Congress) beyond 1960 and that the existing limitation of five million dollars on the annual appropriation be removed.

4. Water Pollution—The Association recommends the Congress of the United States amend Public Law 660 with the view of increasing the effectiveness of the construction grants for sewage works programs through (a) increasing the total amount of the authorization and appropriation; (b) increasing the maximum grant provision in proportion to any increase in the amount authorized; and (c) authorizing municipalities to band together in constructing joint projects.

5. Medical Care for the Aged—It was the committee's consensus that in keeping with the resolution adopted by the APHA Governing Council in October, 1958, to the effect that there should be some form of paid-up insurance for aged persons, the committee would study any proposed legislation and review any new proposals, taking into consideration the theoretical applications of the proposals and its practical effect upon our communities.

6. Federal Appropriations for Public Health—The committee voted to recommend that APHA become actively involved in the budget request for the Public Health Service for the fiscal year 1960. Specific APHA recommendations are to be withheld until the Administration's budget has been submitted to the Congress early in January, 1959. The committee agreed that every effort should be made to document budgetary requests through examples of program services.

In addition, the committee filed with the Executive Director 55 policy statements based on APHA resolutions adopted since 1948.

The committee directed the Washington staff to furnish to each member a copy of each bill introduced in the Congress which had some health implication. It also requested that the Washington representative prepare a digest of the bill and its intent and any possible indication as to whether or not the bill would receive active consideration. Committee members would send to the chairman their individual views as to whether APHA should testify on the proposal or not. In those instances where affirmative action was recommended and a clear-cut APHA policy existed covering the point at issue, this plan worked very well. The majority of bills reviewed by the committee during the first session of the 86th Congress, however, were not so covered and the theoretically effective system has shown some indications of being too cumbersome to provide a needed consensus, particularly when an answer is needed on short notice.

One additional committee decision should be reported. The committee urged that whenever possible APHA representation to congressional committees be made by the Executive Director, Dr. Berwyn F. Mattison, in order to foster a personal contact between members of the Congress and APHA. During the first session of the 86th Congress, APHA statements or testimony were presented on the following legislative proposals:

Federal Loan Program

On request from the House Committee on Banking and Currency, Dr. Mattison testified on HR-5941. This bill proposed low interest loans to municipalities for water purification and sewage treatment plants, to public and nonprofit hospitals for modernization, and to public nursing homes. Dr. Mattison cited APHA's resolution passed October 30, 1958, calling for federal aid through grants or loans for the construction of nonprofit nursing homes and homes for the aged. In respect to this need and in any instances of loans for hospital modernization, Dr. Mattison in behalf of APHA urged assurance of coordination with state planning authorities and the meeting of minimum standards of care. As to proposed loans for provision of safe water and for sewage plants, the committee was requested to provide participation by the Public Health Service in the review of any applications for federal grants for either of these purposes. Although hearings were conducted on the bill, the subcommittee did not report it and no further action was taken in regard thereto.

Extension, Federal Air Pollution Law

In a statement introduced into the hearings conducted by the Subcommittee on Health and Safety, House Committee on Interstate and Foreign Commerce, APHA directed attention to its resolution adopted in October, 1958, which recommended extension of PL-159, 84th Congress, the Air Pollution Research and Technical Assistance Act, beyond 1960 and the removal of the annual appropriation limitation of 5 million dollars. Supportive data were furnished to the subcommittee.

The Senate voted to amend Public Law 159 of the 84th Congress by extending the authority for a period of four years and increasing the authorization ceiling from the current 5 million dollars to 7.5 million dollars. The House approved a simple extension of PL-159, 84th Congress, for a period of two years with no change in the authorization. On the final day of the first session of the 86th Congress, the two houses agreed upon a compromise between the two versions. The authorization ceiling of 5 million dollars as voted by the House was agreed to by the Senate, and the four-year extension of the public law as voted by the Senate was agreed to by the House.

Federal Health Appropriations, 1960

A comprehensive statement reviewing federal health programs, the health needs throughout the nation, and the adequacy of appropriation requests was presented to both the House and the Senate Appropriation Subcommittee on Labor-HEW. Although specific program requests were not listed, the statement included APHA views on the following programs: Migrant labor; occupational health; accident prevention; health of the aged; chronic disease control; federal grant programs for general health services, schools of public health, tuberculosis, venereal disease, hospital construction, waste treatment construction, traineeships for public health workers and professional nurses; communicable diseases; sanitary engineering; water pollution; air pollution; PHS hospitals; dental health; foreign quarantine; Indian health; the National Institutes of Health; and Maternal and Child Health and Crippled Children programs. The final version of HR-6769, making appropriations for the Departments of Health, Education, and Welfare as it related to health programs, might be characterized as containing amounts fairly consistent with previous years for all programs except radiological health and all of the National Institutes of Health, where sizable increases were approved.

Problems of the Aged and Aging

At the request of the chairman, Senator McNamara, Dr. Mattison appeared before the Senate Subcommittee on Problems of the Aged and Aging of the Senate Committee on Labor and Public Welfare. Dr. Mattison outlined APHA's interest and activities in respect to this problem, including publication of the document, "Housing Our Aging Population"; joint activity with the American Public Welfare Association on "Health Problems of the Aging"; the Chronic Disease and Rehabilitation Committee's forthcoming manual on chronic disease programs for health departments; another manual soon to be released dealing with the special nutritional needs of the aged; and the preparation of a program guide for public health agencies in the field of mental health. Dr. Mattison pointed out that more extensive use of newer public health and medical technics could appreciably reduce future disability in the population over age 65. Glaucoma and diabetes were listed as just two of the chronic illnesses which may be controlled, as venereal disease and tuberculosis have been, with pro-

grams of early detection followed by prompt and consistent medical care. More effective use of the great potential of persons trained in health matters would also contribute to a general improvement in health conditions. Home care of the aged could be improved by a more practical and comprehensive use of the services of public health nurses employed by health departments and visiting nurse associations and the use of trained medical health officers as consultants to the medical care programs of welfare departments. A strong plea was made for interagency planning and cooperation to contribute toward a solution of the problems of the aging to salvage some of the vast potential of experience, skill, and wisdom of these older persons.

Hearings by the Senate Subcommittee on Problems of the Aged and Aging will continue during the recess between the first and second sessions of the 86th Congress. These hearings are to be conducted in a number of cities throughout the country and are intended to provide the committee with information on problems in this field as viewed by individuals closer to the problem than officials of federal agencies or representatives of national agencies. A report on the findings of the subcommittee is to be published and available to the Senate at an early date after the convening of the second session of the 86th Congress.

Forand Bill

At the direction of APHA's Executive Board, Dr. Mattison in a statement presented to the House Committee on Ways and Means, stated that the APHA neither favored nor opposed HR-4700, the Forand Bill. In similar testimony presented to the McNamara Committee, Dr. Mattison pointed out that many more health services could be provided with our present potential than are now available. The loss of effectiveness through fragmentation of health and medical services was listed as a serious defect of present health programs. Dr. Mattison also emphasized the great need for the training of personnel to provide auxiliary care. Other gaps and shortcomings in present utilization of medical and related services covered in this testimony were:

1. Scarcity of services for patients at home.
2. Preoccupation with institutional care despite the fact that up to 90 per cent of the long-term patients are at home.
3. Need to convert a number of under-used institutions to meet the needs of the chronically ill.
4. The inadequate supply of psychiatrists, physiatrists, psychologists, public health nurses, physical and occupational therapists, medical and psychiatric social workers, and homemakers.
5. The lack of rehabilitative or restorative services in many hospitals and communities.
6. The number of long-term patients from the lower economic group indicates the need for some kind of increased prepaid based service.

It was not the intention of the House Ways and Means Committee, when hearings were held on HR-4700, to proceed immediately with further consideration of the bill. Additional hearings have been scheduled for November by the Subcommittee on Administration of the Social Security Laws of the House Ways and Means Committee. It is anticipated that further consideration will be undertaken by the House Ways and Means Committee during the second session of the 86th Congress.

Automobile Safety

Dr. Mattison appeared before the Health and Safety Subcommittee, House Committee on Interstate and Foreign Commerce, to testify on HR-1341 and HR-1346. The former proposes that the secretary of commerce establish minimum safety standards for motor vehicles purchased or otherwise utilized by the federal government. HR-1346 proposed

an authorization for the Surgeon General, PHS, to establish standards relative to maximum amounts of unburned hydrocarbons hazardous to the public health to be emitted by motor vehicles. Dr. Mattison reported APHA's resolution of October 30, 1958, calling for greatly expanded use of automobile seat belts. He also cited results from other studies, both as to the lack of safety features in autos and the health hazards due to automobile exhausts. Both these bills were amended (HR-1346 now simply calls for a two-year study of the dangers of unburned hydrocarbons) by the full committee.

HR-1341, authorizing the establishing of minimum safety standards by the secretary of commerce for motor vehicles purchased by the federal government, was passed by the House of Representatives and sent to the Senate where it has been referred to the Senate Committee on Interstate and Foreign Commerce. No action was taken by that committee on this bill during the first session of the 86th Congress.

HR-1346, after amendment by the House Committee on Interstate and Foreign Commerce, was re-introduced as HR-8238 and was passed by the House of Representatives. The bill was forwarded to the Senate and referred there to the Senate's Committee on Labor and Public Welfare where it will be considered by the Subcommittee on Health.

Water Pollution

In accordance with the APHA resolution adopted in October, 1958, calling for amendment of PL-660, a statement was submitted to the House Committee on Public Works, hearing HR-3610, requesting that current limitations be lifted on (a) the total authorization, (b) annual appropriations, and (c) joint projects. The House committee acted affirmatively on HR-3610 as was reported to the APHA membership. The Senate Committee on Public Works voted to amend PL-660 less liberally than was voted by the House.

The Senate when it approved HR-3610 further amended the bill as it had been reported from the Senate Committee on Public Works. Said amendments brought the bill more in line with the House version, but differences still exist, the most important being the total authorization for the program at 800 million dollars as opposed to a House-approved authorization of 1 billion dollars and an annual authorization for appropriations of 80 millon dollars as contrasted to the House-approved authorization of 100 millon dollars.

The Senate voted to disagree to the House version, requested a conference with the House, and appointed conferees on the part of the Senate. The first session of the 86th Congress ended before conferees were appointed on the part of the House. The present status will hold over until the convening of the second session of the 86th Congress when further action can be anticipated.

Public Health Training

Dr. Mattison testified before the Health and Safety Subcommittee on HR-6325 which provides a simple extension of the Titles I and II traineeship programs, and on HR-6871 which provides for extension of federal grant programs to schools of public health, the Title I traineeships and the initiation of construction grants to schools of public health, training grants to state health departments, and grants for training public health nurses. Dr. Mattison reported to the Committee on the Training Conference held in July, 1958. He also cited APHA resolutions calling for federal aid to schools of public health and introduced into the record of the hearings APHA's policy statement regarding the need for a USPHS program of recruitment and training of radiologi-

cal health personnel as one area of greatest need. The congressional committee decided against voting out the more comprehensive training bill, but did report out favorably extension of the Titles I and II traineeships.

Both the House and Senate voted a simple five-year extension of the Titles I and II traineeship programs. No further action was taken in either house on bills calling for increased federal activity in the training of public health workers.

The APHA has thus attempted to make available to interested committees of Congress the views and opinions of the largest public health organization in the world. The Public Policy and Legislation Committee hopes that this beginning meets with the approval of APHA's membership and Governing Council and that we will be able to report greater accomplishments in the future.

CLARENCE W. KLASSEN, State Department of Health, Springfield, Ill., Chairman

Report of the chairman of the Committee on Public Policy and Legislation to the Governing Council at the Eighty-Seventh Annual Meeting of the American Public Health Association in Atlantic City, N. J., October 18, 1959.

Dental Public Health Boards

The American Board of Dental Public Health will administer certifying examinations October 13 and 14 in Los Angeles, Calif., before the 101st annual session of the American Dental Association. The board has broadened its eligibility requirements to permit certification of those dentists engaged in full-time teaching or research as well as administration related to dental public health practice.

Applications for admission to the examination should be submitted to the board not later than June 15. Forms may be obtained from the Secretary, Donald J. Galagan, D.D.S., Public Health Service, Washington 25, D. C.

COMMITTEE ON RESEARCH POLICY

DURING the past year the Committee on Research Policy has been concerned mainly with helping to chart the status, nature, and extent of research activity within organized public health effort.

1. The committee has invited the Committee on Research of the Association of State and Territorial Health Officers and the Public Health Research Study Section of the National Institutes of Health to join with it for the purpose of securing an inventory of current research being done by organized health agencies. A subcommittee is at work on this project with staff assistance being provided by Dr. Mayes and his associates in the Bureau of State Services of the U. S. Public Health Service. If possible, this subcommittee will attempt to determine as well some measure of the research potential not now being exploited in organized public health agencies.

In addition to this specific joint activity, the committee has also proposed that general liaison between the three groups be established and maintained. An invitation has been extended to a fourth group, the Council on Research of the American College of Preventive Medicine, to take part in these activities.

As a result, in part, of the interest of the Committee on Research Policy, the Office of Research Planning (NIH), with the cooperation of the Government's Division of the U. S. Census Bureau, is studying the nature and extent of health and medical research that is being conducted or supported by governmental agencies within a sample of five selected states.

The study brought out that a variety of state agencies—Public Health, Mental Health, Labor, Education, Welfare, Highways, and others—are actively engaged in health-related research. While this finding was expectable, another was a surprise, i.e., the magnitude of research supported by state governments. The five states (California, Connecticut, Florida, Michigan, and New York) are spending over 16 million dollars within a fiscal year, primarily in the area of mental health, chronic disease, special problem areas, and basic biological and medical research.

2. The committee has given considerable thought to the desirability of its serving as a central clearing house of information on intra-APHA research activity for Standing, Program Area, Section, and other committees. While this aspect of the committee's role has developed thus far only to a modest degree, there appears to be a real need for an intra-Association clearing house and information-exchange on research.

3. The committee through its chairman has sought to coordinate its interests and activities with those of the Technical Development Board, the mechanism established by the Association for "Initiation and assisting in the development of balanced activities . . ." in all aspects of the public health program. At the March, 1959, meeting of the TDB the Association's research program was thoroughly discussed. Based on the two recent annual reports of the CRP and a résumé of its current discussions, the TDB is incorporating in its annual report for 1959 a series of suggestions and recommendations to the Governing Council which in the main support and supplement earlier recommendations of the CRP.

4. The committee has also undertaken an experimental venture at the 1959 Annual Meeting of the Association with the co-sponsorship of the ASTHO Committee on Research, the Public Health Research Study Section (NIH), and the Research Program Staff of the Bureau of State Services (USPHS). Within the framework of the Scientific Exhibits an informal research consultation booth will be available to all of the Association's

membership who are actively engaged or interested in research effort. The booth will be staffed by members of the sponsoring committees.

5. The Committee on Research Policy wishes to reaffirm the recommendations presented at the 1958 Annual Meeting and to secure from the Governing Council such action and advice as will permit the CRP to move forward in its assigned area of responsibility in the year ahead:

(a) It and other standing committees have three meetings a year in addition to the one during the Annual Meeting and that one be held at a time when a joint session of the Standing and Program Area Committees might be held.

(b) The equivalent of one-third to one-half time of a professional staff member be made available to the committee. It endorses the principle that each standing committee should be provided with qualified professional staff on a continuing basis.

(c) The Association should encourage and promote through all means at its disposal conditions more favorable to continued growth both in basic research and in applied or "action" research usually called "research in public health practice."

(d) Before Standing, Program Area, Section, and other committees undertake new research activities or seek funds or staff for such activities, they advise with CRP in order that it serve as a central clearing house of information on intra-Association research activity.

THOMAS D. DUBLIN, M.D., National Institutes of Health, Bethesda, Md., Chairman

Summary report of the chairman of the Committee on Research Policy to the Governing Council at the Eighty-Seventh Annual Meeting of the American Public Health Association in Atlantic City, N. J., October 18, 1959.

Viruses, Infections, and Diseases

The older idea of "one disease-one agent" has had to give way to the concept that a well-defined clinical syndrome may be induced by any one of a number of viruses and that one virus may induce several different symptom complexes. The new knowledge has important implications to understanding viral infections of the respiratory tract. As an example, the clinical syndrome called influenza may be induced by some ten or eleven different viruses, only four of which are designated as influenza viruses. Moreover, one influenza virus may induce a wide variety of clinical entities ranging in severity from very minor upper respiratory infections to fatal viral pneumonia. Thus, a diagnosis of influenza may mean quite different things to the clinician and to the virologist. Ideas about viruses, like those about bacteria, are becoming less and less disease-oriented and more and more concerned with the mechanism of infection which may, but more commonly does not, lead to disease.

(Frank L. Horsfall, Jr., The J. Burns Amberson Lecture, The American Review, September, 1959.)

ASSOCIATION NEWS

APHA ANNUAL MEETINGS

1960—October 31-November 4—San Francisco, Calif.
1961—November 13-November 17—Detroit, Mich.

1960 GOVERNING COUNCIL NOMINATIONS

The Nominating Committee for Elective Councilors has completed its assignment for this year by submitting the following names as its selections of Governing Council nominees for 1960.

Section 1 of Article IX of the Association By-Laws provides that the Nominating Committee, composed of one representative elected by each Section and a chairman appointed by the Executive Board, shall "present to the Executive Director not less than six months before the Annual Meeting the names of the Fellows selected as nominees for the Governing Council. The number of nominees shall be not less than two nor more than three times the number of vacancies which will exist at the adjournment sine die of the Governing Council at the next Annual Meeting." Section 2 calls for publication of the nominees to be not less than five months before the Annual Meeting.

Guillermo Arbona, M.D., M.P.H.
Department of Health
Santurce, P. R.

Solomon J. Axelrod, M.D., M.P.H.
University of Michigan
Ann Arbor, Mich.

Leona Baumgartner, M.D.
City Health Department
New York, N. Y.

Daniel Bergsma, M.D., M.P.H.
The National Foundation
New York, N. Y.

Clyde M. Berry, Ph.D.
State University of Iowa
Iowa City, Iowa

Betty W. Bond, Ph.D., M.P.H.
City Health Department
Minneapolis, Minn.

Herbert M. Bosch, M.P.H.
University of Minnesota
Minneapolis, Minn.

Antonio Ciocco, D.Sc.
University of Pittsburgh
Pittsburgh, Pa.

Pearl P. Coulter, R.N.
University of Arizona
Tucson, Ariz.

Paul M. Densen, D.Sc.
City Health Department
New York, N. Y.

Martha M. Eliot, M.D., D.Sc.
Harvard University
Boston, Mass.

Ruth Freeman, Ed.D.
The Rockefeller Foundation
New York, N. Y.

Donald J. Galagan, D.D.S., M.P.H.
Public Health Service
Washington, D. C.

Grace A. Goldsmith, M.D.
Tulane University
New Orleans, La.

Albert V. Hardy, M.D., Dr.P.H.
State Board of Health
Jacksonville, Fla.

Patricia J. Hill, M.P.H.
State Department of Education
Sacramento, Calif.

Mark D. Hollis, C.E.
Public Health Service
Washington, D. C.

Norma Johannis, M.P.H.
State Department of Health
Denver, Colo.

Andie L. Knutson, Ph.D.
University of California
Berkeley, Calif.

Paul V. Lemkau, M.D.
Johns Hopkins University
Baltimore, Md.

Alan C. Love, M.S.
City Health Department
Houston, Texas

Dwight F. Metzler, C.E.
State Board of Health
Topeka, Kans.

Ella McNeil, R.N.
University of Michigan
Ann Arbor, Mich.

Sewall O. Milliken, M.P.H.
Yale University
New Haven, Conn.

Benjamin Pasamanick, M.D.
Ohio State University
Columbus, Ohio

Edward Press, M.D., M.P.H.
City Health Department
Evanston, Ill.

Fred B. Ragland
State Board of Health
Jacksonville, Fla.

Mabel E. Rugen, Ph.D.
University of Michigan
Ann Arbor, Mich.

William M. Schmidt, M.D.
Harvard University
Boston, Mass.

Henry C. Schumacher, M.D.
University of Florida
Gainesville, Fla.

Robert E. Shank, M.D.
Washington University
St. Louis, Mo.

Cecil G. Sheps, M.D., M.P.H.
University of Pittsburgh
Pittsburgh, Pa.

Roy D. Smiley, D.D.S.
State Board of Health
Indianapolis, Ind.

Frank M. Stead, M.S.
State Department of Health
Berkeley, Calif.

Waldo L. Treuting, M.D.
University of Pittsburgh
Pittsburgh, Pa.

Elaine L. Updyke, Sc.D.
Communicable Disease Center
Chamblee, Ga.

Helen M. Wallace, M.D., M.P.H.
Children's Bureau
Washington, D. C.

Patricia Walsh, R.N.
University of Michigan
Ann Arbor, Mich.

James Watt, M.D., Dr.P.H.
National Heart Institute
Bethesda, Md.

Myron E. Wegman, M.D., M.P.H.
Pan American Sanitary Bureau
Washington, D. C.

Charles L. Wilbar, Jr., M.D.
State Department of Health
Harrisburg, Pa.

Fellows and members of the Association are reminded that Section 3 of By-Law Article IX states that "upon the petition of twenty-five Fellows or members, the Nominating Committee shall add the name of any Fellow to the nominees selected by it, provided such petition is received not less than three months before the Annual Meeting." The closing date for the receipt of such petitions by the Executive Director will be July 31, 1960.

The list of Governing Council nominees shown above, plus any that may be added by petition, will be carried on the official ballot which will be mailed on August 31 to all Fellows and members in good standing. There will be 15 vacancies on the Governing Council to be filled.

The members, and the Sections represented, of the 1960 Nominating Committee for Elective Councilors are:

Marjorie M. Morrison, M.S.
Chairman and representing the Unaffiliated group
Evan T. Bynoe, Ph.D.
Laboratory
Robert A. Downs, D.D.S.
Dental Health

Thomas Francis, Jr., M.D.
Epidemiology
Madelyn N. Hall, R.N.
Public Health Nursing
Roscoe P. Kandle, M.D.
Health Officers
Josephine K. Omura, M.A.
Mental Health
Leonard S. Rosenfeld, M.D.
Medical Care
Perry Sandell, M.Ed.
School Health
Helen Stacey, M.S.
Food and Nutrition
Clarence I. Sterling, Jr., P.E.
Engineering and Sanitation
Herbert T. Walworth, M.S.
Occupational Health
Samuel M. Wishik, M.D.
Maternal and Child Health
Jane Worcester, Dr.P.H.
Statistics
Robert Yoho, H.S.D.
Public Health Education

Unfair to the Food and Nutrition Section

Through an inadvertence, two committees were omitted from the list of the Food and Nutrition Section Committees on page 243 of the February Journal. They are listed now, with apologies for the omission.

Nominating Committee

Helen R. Stacey, Chairman, Children's Bureau, 50 Seventh St., N.E., Atlanta 23, Ga.
Gertrude E. Austin, M.S.
Robert S. Goodhart, M.D.
Lester J. Teply, Ph.D.

Resolutions Committee

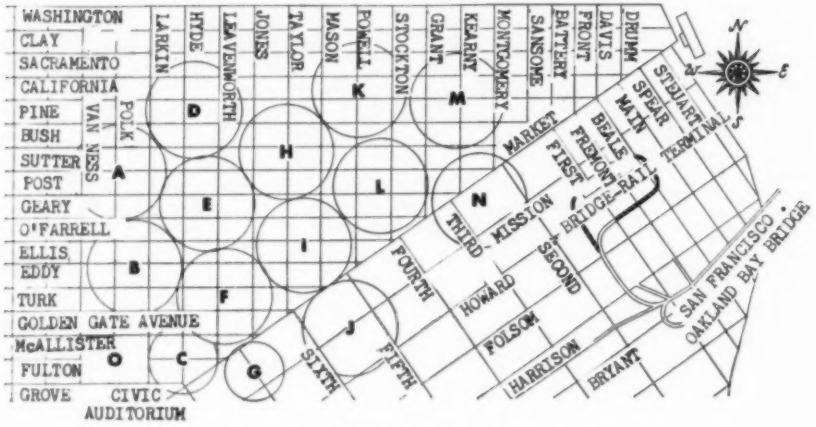
Fred C. Baselt, C.E., Chairman, American Can Co., 100 Park Ave., New York 17, N. Y.
Mary E. Aiken
M. Thomas Bartram, Ph.D.
Doris E. Lauber

American Public Health Association membership application blank appears on page XXXV

The Social Climate of Epidemiology

"Because of the changing universe about us, I find it difficult to visualize a world without disease and maladjustment. The atomic age, the exploration and population of space, of itself will create new epidemiological and ecological boundaries. Epidemiology is basically an investigative field representing the application of the scientific method to problems of population groups generally. Various points of reference may be taken in mapping out the general ecology of man. Epidemiology thus moves with disease and disorder as its index. Its approach to human ecology is to detect, to measure, to understand the harmful influences which impair the relationship of man with his environment. It is a study of pathogenesis, not just observation. While trying to obtain adequate measurement of these stresses, the effort should lead to the better definition of health, to the better design of procedures for maintenance of health and for the prevention of its deterioration. Never before has the social climate blended so well with the biological and physical approaches to make population investigations possible and popular. But in undertaking such studies one must guard against those harmful influences which may lead to popular but dubious conclusions and to give attention to the constant need for controlled data which permit valid interpretations and conclusions."—THOMAS FRANCIS, JR.: The Epidemiological Approach to Human Ecology. *The American Journal of the Medical Sciences*, June, 1959.

Street Plan of San Francisco Showing Location of Civic Auditorium and Housing Bureau Hotels (Letter indicates Zone)



HOTELS AND RATES

Zone	Hotel	Single	Double	Twin Beds	Parlor Suite
E	Alexander Hamilton	$10.00–14.50	$13.00–18.50	$13.00–18.50	$20.00–60.00
H	Bellevue	8.00–10.00	10.00–12.00	12.00–15.00	20.00–25.00
L	Beresford	4.75– 5.50	6.00– 6.75	6.50– 7.00	
M	Beverly Plaza	7.00– 8.00	10.00–11.00	10.00–12.00	20.00–
A	Broadmoor	7.00–	8.00–	10.00–	
I	Californian	8.50–11.00	10.50–13.50	11.50–14.00	22.00–25.00
H	Canterbury	10.00–17.00	12.00–19.00	14.00–20.00	25.00–40.00
L	Cartwright	6.50–	7.50–	8.50–	
H	Cecil	7.50– 8.50	9.50–10.50	11.00–12.00	
L	Chancellor	7.00–	9.00–	10.00–	
H	Clift	13.00–21.00		16.00–23.00	41.00–50.00
K	Colonial	8.00–12.00	12.00–15.00	15.00–20.00	20.00–25.00
H	Commodore	6.00–12.00	8.00–14.00	10.00–16.00	
L	Devonshire	6.00– 6.50	7.50– 8.50	8.50–10.00	
L	Drake Wiltshire	10.00–11.00	12.00–14.00	13.00–16.00	25.00–35.00
H	El Cortez	8.00–10.00	10.00–12.00	11.00–14.00	20.00–26.00
F	Federal	3.00– 5.50	4.00– 7.00	4.50– 7.00	
L	Fielding	6.00– 8.00	8.00–10.00	9.00–12.00	20.00–25.00
L	Franciscan	7.00–	9.00–	12.00–	18.00–
H	Gaylord	8.00–	10.00–	12.00–	25.00–
L	Golden State	5.00– 6.00	7.00– 8.00	8.50– 9.00	
K	Grant	5.50–	8.00–	9.00–	
A	Jack Tar	10.00–20.00	12.00–22.00	16.00–26.00	32.00–80.00
L	King George	6.00– 8.00	8.00–10.00	10.00–14.00	20.00–
J	Lankershim	4.00– 5.50	5.00– 7.00	6.50– 8.00	
F	La Salle	6.00–	7.00–	8.00–	15.00–
A	Leland	4.00– 6.50	5.00– 8.50	7.00–10.00	
L	Manx	8.00–11.00	10.00–12.00	11.00–13.00	20.00–25.00
K	Mark Hopkins	15.00–19.00	19.00–23.00	19.00–23.00	38.00–75.00
H	Maurice	6.00– 9.00	8.50–10.50	9.00–11.50	17.50–18.50
I	Olympic	5.50– 8.50	7.50–11.00	8.50–10.00	
I	Oxford	7.00– 8.00	8.00– 9.00	9.00–10.00	
L	Paisley	5.00–	6.50–	7.00–	
J	Pickwick	5.00– 7.00	6.00– 9.00	6.00– 9.00	
L	Plaza	7.50–11.50	9.50–13.50	10.00–14.50	18.00–20.00
L	St. Francis	12.00–22.00	13.00–20.00	16.00–25.00	30.00–55.00
B	Senate	5.00– 6.00	6.00– 7.50	7.50– 9.00	
N	Sheraton Palace	8.75–16.50	13.85–20.50	13.85–20.50	25.00–150.00
L	Sir Francis Drake	11.00–16.00	13.00–17.00	16.00–22.00	35.00–50.00
L	Stewart	7.00–12.00	9.00–14.00	11.00–18.00	26.00–30.00
N	Sutter	5.00– 7.00	7.00– 9.00	8.00–10.00	
C	Whitcomb	10.00–12.00	11.00–16.00	12.00–16.00	25.00–60.00
H	Worth	7.00–	8.00–	9.00–	

SAN FRANCISCO ANNUAL MEETING, OCTOBER 31-NOVEMBER 4

A Housing Bureau will be operated by the San Francisco Convention and Visitors Bureau for the Association. Since all requests for rooms are handled in **chronological order,** it is recommended that you send in your application as quickly as possible.

In making hotel reservations please use the blank below, indicating your first, second, and third choice of hotels listed. Because of the limited number of **Single Rooms Available,** you will have a better choice of securing accommodations in the hotel you prefer if your request calls for rooms to be occupied by two or more persons. Rates quoted are for the room, and in case of double occupancy, the rate will be shared.

No Minimum Rates, or any specific rate within the full price range quoted, can be guaranteed when your reservation is confirmed. Hotels make every effort to give you the requested rate. However, this is governed by prior check-outs and availability of such rooms on the date of your arrival.

All Requests Should Be Accompanied by a Deposit Check for $10 per room made out to the **APHA Housing Bureau.** Hotels cancel unclaimed reservations by 4:00 p.m. Therefore, a deposit is requested to insure that your reservations will be held on your arrival date—whatever the hour. Your deposit will be credited to your account. **Please Do Not Send Cash.**

Cancellations: Cancellations must be received 15 days prior to the meeting for refunds of your deposit to be made by the hotel.

Late Requests: Applications Received Later Than October 16 (15 days prior to the opening date of the convention) **will be returned.** In such cases please select your own hotels and write to them direct.

All reservations must clear through the Housing Bureau. All requests must give definite date and approximate hour of arrival and names and addresses of all persons who will occupy rooms requested.

ALL RESERVATIONS WILL BE CONFIRMED IF REQUEST IS RECEIVED NOT LATER THAN OCTOBER 16.

MAIL TO:

APHA HOUSING BUREAU
Room 300, 61 Grove Street
San Francisco 2, California

(*Note:* Single rooms are very scarce. Please arrange to share a twin-bedroom with another.)

PLEASE MAKE RESERVATIONS NOTED BELOW:

First Choice Hotel .....

Second Choice Hotel .....

Third Choice Hotel .....

Single Room .....

Double Bedroom .....

Twin Bedroom .....

Parlor, Bedroom Suite .....

Arrival ..... at ..... A.M. ..... P.M. Departure .....

NAMES OF ALL OCCUPANTS:
(Please bracket those sharing a room)

ADDRESSES:

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Check For $..... payable to **APHA Housing Bureau** is enclosed. Please enclose a self-addressed stamped envelope.

MAIL CONFIRMATION TO: (Signed) .....
(Please print or type)

Address .....

City ..... Zone ..... State .....

NEWS OF AFFILIATED SOCIETIES AND BRANCHES

APHA Affiliated Societies and Branches

SOCIETY AND SECRETARY

ALABAMA PUBLIC HEALTH ASSOCIATION, Ralph Roberts, State Health Dept., Montgomery
ARIZONA PUBLIC HEALTH ASSOCIATION, J. Rex James, Maricopa County Health Dept., Phoenix
ARKANSAS PUBLIC HEALTH ASSOCIATION, Mrs. Vada Russell, State Health Dept. Bldg., Little Rock
CALIFORNIA, NORTHERN, PUBLIC HEALTH ASSOCIATION, Mrs. Joan Davis, City Health Dept., San Jose
CALIFORNIA, SOUTHERN, PUBLIC HEALTH ASSOCIATION, Dorothea Hansen, City Health Dept., Los Angeles 12
COLORADO PUBLIC HEALTH ASSOCIATION, Alice de Bruyn Kops, 4660 S. Delaware, Englewood
CONNECTICUT PUBLIC HEALTH ASSOCIATION, Shirley Thayer, R.N., 61 Arnold Way, West Hartford 7
CUBAN PUBLIC HEALTH SOCIETY, Dr. Raphael Calvo Fonseca, Calle 19 No. 511 Altos Vedado, Havana
FLORIDA PUBLIC HEALTH ASSOCIATION, Everett H. Williams, Jr., P. O. Box 210, Jacksonville
GEORGIA PUBLIC HEALTH ASSOCIATION, Carl Fox, 33 Pryor St., N.E., Atlanta
HAWAII PUBLIC HEALTH ASSOCIATION, Alison MacBride, R.N., 510 S. Beretania St., Honolulu 13
IDAHO PUBLIC HEALTH ASSOCIATION, Charles Hammond, P. O. Box 640, Boise
ILLINOIS PUBLIC HEALTH ASSOCIATION, William J. Hixon, Evanston Health Dept., Evanston
INDIANA PUBLIC HEALTH ASSOCIATION, Malcolm J. McLelland, State Board of Health, Indianapolis
IOWA PUBLIC HEALTH ASSOCIATION, Lloyd Coe, Iowa Hospital Association, 1012 Liberty Bldg., Des Moines
KANSAS PUBLIC HEALTH ASSOCIATION, W. W. Wilmore, Kansas Tuberculosis and Health Assn., 1134 Topeka Ave., Topeka
KENTUCKY PUBLIC HEALTH ASSOCIATION, Peggy Fisher, 620 S. Third St., Louisville 2
LOUISIANA PUBLIC HEALTH ASSOCIATION, Lucille Godelfer, State Dept. of Health, New Orleans 7
MARYLAND PUBLIC HEALTH ASSOCIATION, Mary Thompson, Prince Georges County Board of Education, Upper Marlboro
MASSACHUSETTS PUBLIC HEALTH ASSOCIATION, Mrs. Elizabeth K. Caso, Dept. of Health, Cambridge
MICHIGAN PUBLIC HEALTH ASSOCIATION, Marjorie Delevan, 1817 West St. Joseph Street, Lansing
MINNESOTA PUBLIC HEALTH ASSOCIATION, D. S. Fleming, M.D., State Dept. of Health, University Campus, Minneapolis
MISSISSIPPI PUBLIC HEALTH ASSOCIATION, H. E. Boone, P. O. Box 1700, Jackson
MISSOURI PUBLIC HEALTH ASSOCIATION, Mrs. Nadia Craver, 5th Fl., State Office Bldg., Jefferson City
MONTANA PUBLIC HEALTH ASSOCIATION, Thomas S. Willett, Montana Public Health District 1, Hardin
NEBRASKA PUBLIC HEALTH ASSOCIATION, George R. Underwood, M.D., 935 R. St., Lincoln, Neb.
NEW JERSEY PUBLIC HEALTH ASSOCIATION, Waldo McNutt, M.P.H., Delaware River Drive, Frenchtown
NEW MEXICO PUBLIC HEALTH ASSOCIATION, Daniel T. Marley, P. O. Box 8066, Albuquerque
NEW YORK CITY, PUBLIC HEALTH ASSOCIATION OF, Frances Ann McVey, 4317 Robinson St., Flushing 55, N. Y.
NEW YORK STATE PUBLIC HEALTH ASSOCIATION, Mrs. Kathleen Boland, Rensselaer County Health Dept., Troy
NORTH CAROLINA PUBLIC HEALTH ASSOCIATION, Robert W. Brown, Box 7525, Asheville
NORTH DAKOTA PUBLIC HEALTH ASSOCIATION, Alice H. Peterson, M.D., State Dept. of Health, Bismarck
OHIO PUBLIC HEALTH ASSOCIATION, Mrs. June O'Donnell, 3516 Braddock St., Dayton
OKLAHOMA PUBLIC HEALTH ASSOCIATION, Bill Burk, 3400 North Eastern, Oklahoma City
OREGON PUBLIC HEALTH ASSOCIATION, Muriel David, City Bureau of Health, 203 N.E. 28th Ave., Portland
PENNSYLVANIA PUBLIC HEALTH ASSOCIATION, Emma J. Petach, R.N., 324 N. Second St., Harrisburg
PUERTO RICO PUBLIC HEALTH ASSOCIATION, Mrs. Mae de Acin, Apartado 211, San Juan 2
SOUTH CAROLINA PUBLIC HEALTH ASSOCIATION, Mrs. Laura M. DeMarse, State Health Dept., Columbia
SOUTH DAKOTA PUBLIC HEALTH ASSOCIATION, Alice Brady, R.N., State Dept. of Health, Pierre
TENNESSEE PUBLIC HEALTH ASSOCIATION, C. B. Tucker, M.D., State Dept. of Health, 420 Sixth Ave., N., Nashville
TEXAS PUBLIC HEALTH ASSOCIATION, Joseph N. Murphy, Jr., State Dept. of Health, Austin
UTAH PUBLIC HEALTH ASSOCIATION, Katherine Brandon, M.D., P. O. Box 25, Foothill Station, Salt Lake City
VIRGINIA PUBLIC HEALTH ASSOCIATION, Mrs. Helen W. Wiesmann, 1220 E. Broad St., Richmond
WASHINGTON STATE PUBLIC HEALTH ASSOCIATION, Caesar Branchini, General Electric Company, Richland
WEST VIRGINIA PUBLIC HEALTH ASSOCIATION, Mrs. Katherine L. Brown, West Virginia State Dept. of Health, Charleston 5
WISCONSIN ASSOCIATION FOR PUBLIC HEALTH, Paul Weis, 1 W. Wilson St., Madison
MIDDLE STATES BRANCH, APHA, Thelma Luther, Dept. of Health, Des Moines, Iowa
SOUTHERN BRANCH, APHA, M. L. McDonald, Dallas Health Museum, Dallas, Tex.
WESTERN BRANCH, APHA, Robert G. Beaumier, 1309 Smith Tower, Seattle, Wash.

Two Decades of History: Colorado

The history of the Florida Public Health Association arrived at the Journal offices in time for mention in the April issue. Now along comes Colorado Public Health Association with its history and a mention in May. What will June and the future bring? Hopefully, more affiliated society histories coming off the presses to add to the other signs that the "Pluribus" of public health who make up its "Unum" continue to evaluate their efforts after they have come of age.

In the case of FPHA and CPHA one does not see history-writing as a sign of resting on laurels. As their programs indicate, they appear to be healthy in their maturity—acting their age with unabashed program vigor. What could be more of an alive issue, for example,

than Colorado's annual meeting (May) theme—the "Application of Behavioral Sciences to Public Health Problems?"

Apparently it was not easy for the CPHA to get launched. In Chapter I, "Mountains Can Obstruct the View," the author, Helen Crennell, writes that "there was no popular demand for an organization of its kind" in the thirties when it was formed. And the state's health program, suffered from "the firm conviction of a number of Coloradoans that their climate possessed its own peculiarly medicinal qualities." Chapter II, "Prelude to the Formation of the Colorado Public Health Association," describes some of the activities that helped bring about changes in health attitudes in the state. Chapter III is devoted to the first decade of CPHA which began in 1938 and was identified in the July issue of the AJPH that year as an association seeking affiliation and representing "a consolidation of what formerly was the Colorado Council of State-Wide Health Agencies." One of the organizers was Roy L. Cleere, M.D., 1960 president of CPHA, and the present director of public health for Colorado. Chapter IV deals with CPHA's second decade, ending on the note that as it entered its third "it continued to display an ability to adapt and develop in a changing environment."

The author completed this 52 page mimeographed document in satisfaction of requirements for her master's degree at the University of Colorado. CPHA's terms of agreement with the university at the time of the history's publication prohibit the sale of copies. "However, it has been suggested that (interested) persons might like to make a contribution ($1 suggested) toward the expense of reproduction." Application for copies (75 only were available in January) to Norma Johannis, chairman, History Committee, 1422 Grant Street, Denver 3, Colo.

The Service Theme Is Explored

"Public Health — A Public Service" was the theme of the Oklahoma Public Health Association's 19th annual meeting (Oklahoma City, March 9-11, 1960). Three half-days of general sessions, one half-day of section meetings, exhibits, the annual banquet, and a dinner dance claimed the attention of the 379 registered members and guests.

At general sessions the service theme was approached from many directions. Vlado Getting, M.D., professor of public health practice at the University of Michigan, spoke on "Public Health—An Opportunity to Serve." He called upon administrators to evaluate their work on results rather than efforts. Harley L. Robertson, senior program consultant, American Heart Association, dwelt on the importance of "Community Teamwork for Better Health." The multiplicity of new public health problems clamoring for the effective services of health workers were pointed up in other papers: "Antibiotics and Pesticide Residue in Fluid Milk" presented by Sam D. Fine, director, Kansas City District of Food and Drug Administration; "Radiation Hazards," by David Gould, M.D., professor of radiology at the University of Colorado; "Environmental Stresses," by Malcolm C. Hope, chief, General Engineering Program, Public Health Service; "Alcoholism," by Leslie V. Knott, M.D., acting chief, Division of Special Services, Public Health Service; "Health Mobilization," by John W. Whitney, M.D., chief, General Health Services, Region VII, Public Health Service; and "Accidents and Accidental Poisonings," by George Garrison, M.D., practicing pediatrician of Oklahoma City. Many of the visiting speakers at general sessions performed double duty by appearing on section programs also.

Among the attractions at section meetings was the presentation of a play before a joint session of health officers and

nurses. "Three Maple Street" by Nora Stirling, is an American Theatre Wing play featuring the work of public health nurses. Actors were from the Mayde Mack Mummers, a little theater group in Oklahoma City.

In 1958 the OPHA set up a system for providing research grants for members. Two such grants have been made and progress reports were given during the annual business meeting. Clyde Eller, chief sanitary engineer of the Tulsa City-County Health Department, is carrying on research in methods of cleaning meat market equipment, and Walter Machala, director, Oklahoma City-County Health Department Laboratory, is studying the presence of bacteria in packaged frozen foods — especially meat pies. Members who need more financial assistance to undertake research were urged to apply to OPHA's Research Grants Committee.

The Constitution and By-laws of the association were amended in 1959 to provide for a council of six members with staggered terms to serve on the Executive Committee. Officers and councilors elected at this meeting were as follows:

President-Elect—Roy H. Gravelle, D.D.S., director, Dental Division, State Health Department

Vice-President—Alice Porter, executive director, Oklahoma State Tuberculosis Association

Secretary-Treasurer—Bill Burk, State Health Department

Councilors (3 years)—Margaret F. Shackelford, director, Statistics Division, State Health Department

Harper Orth, administrative director, Oklahoma Cerebral Palsy Institute

Councilors (2 years)—Glen Earley, R.P.S., district sanitarian, State Health Department

Marion Dotson, R.N., district supervising nurse, State Health Department

Councilors (1 year)—Loyd Pummill, R.P.S., assistant sanitary engineer, State Health Department

K. W. Navin, M.D., director, Pottawatomie County Health Department.

Berl Poe, R.P.S., district sanitarian, Muskogee, was installed as president by Mrs. Mozelle Ewing, R.N., Muskogee City-County Health Department, retiring president.

Editor's note: The January, 1960, Oklahoma Journal of Public Health carries a news item on OPHA's education program: ". . . in operation some four months now and results are beginning to be felt." OPHA has produced a general information pamphlet which "has been put to a multitude of uses." OPHA educational materials also include flip charts for use in talks on health department services and a cartoon series now being run in 50 state newspapers. OPHA is at present working up radio and television material explaining the work of health departments. The secretary of the OPHA would be able to give fuller information on this program. Bill Burk, 3400 N. Eastern, Oklahoma City.

One-day Meetings

The Northern California Public Health Association held one of its four yearly meetings in Stockton on February 5, planned around the subject "Migrant Labor—Problem or Opportunity?" This was also the title of the keynote address by Harold Jacoby, Ph.D., chairman, Sociology Department, College of the Pacific. Following this and a film on migrant labor, "Colorado Cares," group sessions were held on field sanitation, education, legislation, and health services.

Other NCPHA news: Membership stands at 592, a membership committee having brought in 112 new members in a three-month period; officers of NCPHA and the Southern California Public Health Association met in December with the staff of the Western Regional Office: "eventual amalgamation of the two state associations was given serious consideration."

The winter meeting of the Massachusetts Public Health Association, January 26, Cambridge, was almost entirely given over to the public health aspects of cancer control. (Note: The Friday symposium at the 88th Annual Meeting of APHA, October 31 to November 4, San Francisco, will have a similar theme.) The General Session was devoted to an over-all look at the problem, with Leonid S. Snegireff, M.D., Dr.P.H., associate professor of chronic disease control, Harvard School of Public Health, presiding. Four groups heard papers and discussed cigarettes and lung cancer, cytology, the impact of fear on the public in cancer programs, malignancy in childhood, and implications for the community. A fifth group met to confer on the necessity for legislative regulation of sources of ionizing radiation. "Public Health Planning in Massachusetts" was the topic of the evening general session.

A Meeting as Big as a State

Practically nothing in the currently important content of public health was left out of the program of the general assemblies and the meetings of the ten sections of the Texas Public Health Association at the 35th annual meeting (Galveston, February 21-24). And the intellectual fare for the 691 registrants was served up by 124 program participants, drawn mostly from within the state. To add to the interest were 36 local and national, commercial and scientific exhibits, special hours being set aside in the program for visiting them.

It being virtually impossible to report adequately in this space on such an extensive meeting, let the opinion that the "meeting was a real success" partially suffice. We may note, however, two of the topics and speakers of the general assemblies: "Changing Trends in the Teaching of Public Health to Physicians" by Stanley W. Olson, M.D., dean, Baylor University College of Medicine, and "Radiological Aspects of Public Health" by Richard E. Wainerdi, Ph.D., assistant to the dean of engineering, Agricultural and Mechanical College of Texas. Philip R. Overton, legal counsel for the Texas Medical Association, spoke at the banquet on "Health—Its Blessings, Problems and Responsibilities."

At the banquet a $250 Scholarship Award was made to Cuyler Etheredge, senior high school student, Woodrow Wilson High School, Dallas, for the best essay on "The Role of Your Health Department in Community Health Protection"; approximately 600 essayists had entered the contest. The Dr. B. T. Bryant Memorial Award went to M. Graham Smoot, Division of Public Health Education, State Department of Health, Austin, for his work in conceiving, designing, and implementing the Texas Public Health Association Scholarship Project. B. M. Primer, M.D., director, Austin-Travis County Health Department, Austin, and Ella Patton, R.N., chronic disease nurse consultant, Division of Tuberculosis and Chronic Diseases, State Health Department, Austin, were given honorary life memberships.

TPHA elected the following officers for 1960:

President—Maggie Belle Davis, administrative assistant, Corpus Christi-Nueces, County Health Department (succeeding John T. Warren)

President-Elect—William S. Brumage, M.D., M.P.H., director, Division of Cancer Control, Texas State Health Department, Austin

1st Vice-President—W. V. Bradshaw, Jr., M.D., director, Public Health and Welfare Department, Fort Worth

2nd Vice-President—David F. Smallhorst, director, Division of Water Pollution, Texas State Health Department, Austin.

The executive secretary-treasurer of TPHA is Joseph N. Murphy, Jr., associate director, Laboratories, Texas State Health Department, Austin.

EMPLOYMENT SERVICE

The following pages present information for those seeking public health personnel and for those seeking positions in public health. Other information concerning vacancies and personnel available is on file in the Association office. Anyone wishing to have the benefit of this additional information can obtain it by writing to the Vocational Counseling and Placement Service of the Association.

Advertising space in these pages is available at special rates for the use of employers or individuals. The charges are $5 for the first 50 words or fraction thereof and $1 for each additional 10 words or fraction thereof. There is no charge to members or Fellows of the Association who desire to utilize the **Positions Wanted** portion of these pages. **Closing date** for receipt of advertisements is the first of the month preceding the desired month of publication. **All correspondence should be sent to the American Public Health Association, 1790 Broadway, New York 19, N. Y.**

POSITIONS AVAILABLE

Health Officer III—$12,000. In fast growing, rapidly developing, progressive Pinal County midway between Phoenix and Tucson. Direct and develop public health program to meet community needs. M.P.H. or two years' public health experience. Apply Arizona Merit System, 11 North 17th Ave., Phoenix, Ariz.

Local Health Officers—Florida. Two well organized local health units near Pensacola on Gulf Coast. Starting salary $9,120-$11,040 dependent upon previous training and experience. Travel allowance, retirement, other benefits. Write Wilson T. Sowder, M.D., State Health Officer, Florida State Board of Health, P. O. Box 210, Jacksonville, Fla.

Public Health Officer — for well established local health department. M.D. and M.P.H. required. Salary $12,000, plus travel, retirement, vacation, and sick leave. Lee County Health Department, Dixon, Ill.

Medical Health Officer — for established rural county health department in central Michigan. Population approximately 50,000. Good personnel policies and vacation. Salary open depending upon qualifications and experience. For further information write to Shiawassee County Health Department, Court House, Corunna, Mich.

Public Health Physician — as assistant county health officer for well organized county health department in the Middle West. Good salary. Excellent employment benefits. Male or female. Write **Box PH-3,** Employment Service, APHA.

District Tuberculosis Controller and Hospital Director — to render medical care, conduct clinics, coordinate TB control in six-county area of approximately 280,000 population in southeast Ohio, owning 75-bed hospital with 65 per cent occupancy now. Salary open, dependent on qualifications and experience. Contact Merrill L. Rowe, Chairman, Board of Trustees, Mt. Logan Sanatorium, Chillicothe, Ohio.

Pediatrician — for State Health Department. To act as pediatric consultant within agency and work with professional and lay groups in the field. Included in work: hospital standards, school health problems, statistical studies, future program planning. Starting salary $12,240. Ohio medical license, one-year internship, at least two years' graduate training required; preferably Board of Pediatrics or eligible. Civil service position; vacation and sick leave, annual salary increments, retirement plan. Staff appointment to state university if eligible. Address inquiries to Division of Child Hygiene, Ohio Department of Health, Columbus 15, Ohio.

Public Health Physician — Director of Public Health in Portland, Maine, community of 80,000 and center of metropolitan area of about 150,000. Department staff of 37 engaged in progressive public health program, including active housing inspection and enforcement of minimum housing standards and environmental sanitation. Council-Manager form of government since 1923. Health Department enjoys excellent relationships with private and voluntary agencies, and a real civic interest in public health matters exists. Health Department budget for 1960 totals $160,000. Portland offers an unparalleled opportunity for pleasant living. A sea coast city, yet it is within easy driving distance of mountains, lakes, rivers, and forests, which provide excellent year-round recreational facilities. All of the cultural, educational, and recreational centers of New England are within two hours' flying time or a day's drive. An up-to-date public school system offers excellent elementary and secondary educational advantages. Degree in medicine and public health desired. Salary $11,537-$13,937; retirement, vacation, sick leave, group life insurance. Travel ex-

pense for local travel and attendance at professional conferences provided. Write Julian H. Orr, City Manager, City Hall, Portland, Maine.

Pennsylvania Department of Health. Public health opportunities in Pennsylvania: **Regional Medical Director** — $13,301-$16,978. Public Health Physician II to develop and administer a comprehensive program of public health services in a region of several counties. Requirements: Five years' responsible experience in public health administration; eligibility for certfication by the American Board of Preventive Medicine and Public Health; eligibility for licensure in Pennsylvania. **Assistant Director, Bureau of Local Health**— $13,301-$16,978. Public Health Physician II to assist the director of the bureau of local health in administering a state-wide program for local health services. Requirements: Five years' responsible experience in public health administration; eligibility for certification by the appropriate medical specialty board; eligibility for licensure in Pennsylvania. These positions are under the merit system; real opportunity for professional training and advancement; excellent retirement system; liberal sick leave, vacation and holiday benefits. Comparable education and training may be substituted for the stipulated requirements for these positions. For further information or applications, please contact Dr. C. Earl Albrecht, Deputy Secretary of Health, P. O. Box 90, Harrisburg, Pa.

Director of Local Health I — for Knox County, the gateway to the Great Smoky Mountain National Park. Modern, new 28,000 square foot health center building in Knoxville on one of the T.V.A. lakes. Direct a generalized public health program (all basic health services) in a metropolitan area. Assistant medical officer and highly qualified personnel on duty with expansion of staff and program planned in near future. Excellent cooperation with professional and lay groups exists. Eligibility for medical licensure, M.P.H., and some experience required. Salary commensurate with qualifications, but presently budgeted at $15,000, plus liberal travel. State merit system, Social Security, plus a good retirement plan. Apply through Dr. R. H. Hutcheson, Commissioner of Public Health, Cordell Hull Bldg., Nashville, Tenn.

Medical Officer — with M.P.H., and eligibility for license in Tennessee, to direct district health department. Headquarters, 30 miles from Nashville. Area used as training center for Vanderbilt University Nursing School undergraduate program. Beginning salary $10,800 per annum. Social Security, state retirement plan, annual and sick leave benefits. Write Dr. R. H. Hutcheson, Commissioner, Tennessee Department of Public Health, Nashville, Tenn.

Medical Health Officer—with M.P.H. For established City Health Department, La Crosse, Wis. Salary comparable with other cities, depending on qualifications. Retirement benefits, sick leave, vacation. Write Paul Gatterdam, M.D., President, La Crosse Health Department, 1836 South Ave., La Crosse, Wis.

Public Health Nurse—generalized. Salary $384-$466; mileage. Retirement plan, other benefits. High, dry climate, four seasons; center of northern Arizona recreation area. Merit system. Write Merle E. Smith, M.D., M.P.H., Director, Coconino County Health Department, Flagstaff, Ariz.

Public Health Nurse III—$5,880. Supervising nurse in Pinal County Health Department. B.S. in public health nursing and three years' experience in public health work. Apply Arizona Merit System, 11 North 17th Ave., Phoenix, Ariz.

Public Health Nurses—Staff positions in newly organized county health department in Chicago North Shore area, serving population of 275,000. Generalized nursing services, including schools and bedside care. Promotional opportunities in an expanding department. Qualified health officer and director of nurses. Salary range $4,920-$5,820, plus $900 annual travel allowance. Apply: Alma Keyl, Nursing Director, Lake County Health Department, 2307 Grand Ave., Waukegan, Ill.

Executive Director — Combined public health nursing agency. Education and experience in public health nursing, including supervisory experience. Have well qualified health officer. Salary open. Five-day, 40-hour week, month's vacation, and liberal personnel policies. Capital city, population 216,000. Public Health Nursing Association, Des Moines, Iowa. Write Mrs. J. R. McNerney, Personnel Committee, 521 16th St., West Des Moines, Iowa.

Public Health Nurse I — $5,057-$5,537. Challenging position in generalized public health nursing with progressive suburban department 17 miles west of downtown Detroit. Many liberal fringe benefits. Apply, Amalia Krause, Nursing Director, Wayne County Health Department, Eloise, Mich.

Junior Public Health Nurse — Salary range $4,160-$4,979. Liberal retirement and sick leave benefits. New modern building. Promotional opportunities. Apply Flint Civil Service Commission, City Hall, Flint 2, Mich.

Public Health Nurses — Challenging opportunity in Rocky Mountain area of Montana in family health service for the mentally ill. Merit system, retirement plan, accumulating sick leave, paid vacation, salary open. Apply to Director, Division of Public Health Nursing, State Board of Health, Helena, Mont.

Public Health Nurses—Salaries $335-$455. For generalized public health nursing in New Mexico Department of Public Health. Opportunities for advancement, retirement plan, and other fringe benefits. Write Merit System Supervisor, 122 Capitol Pl., Santa Fe, N. M.

Executive Director—Immediate appointment available in a well established visiting nurse association located in northeastern United States. Excellent working conditions, liberal personnel policies. Qualifications: Education: Preparation in public health nursing and in public health administration; bachelor's degree from a university approved by the National League for Nursing; master's degree desirable. Experience: Both voluntary and official agency experience desirable. Make application to **Box C-52,** Employment Service, APHA.

Public Health Nurses—County health department located near metropolitan area. Generalized combined nursing program. PHN I: $4,121-$4,551, R.N., no experience; PHN II: $4,551-$5,803, B.S., with preparation for first-level public health, no experience; PHN III: $5,007-$6,390, same as II plus two years' experience in public health nursing. Merit system, uniform allowance, mileage, retirement, insurance. Staff of 23 in department. Immediate openings. Apply to James G. Roney, Jr., M.D., Director, Butler County Health Department, 426 N. Main St., Butler, Pa.

Public Health Nursing Consultant (Assistant to Director of Public Health Nursing in State Health Department)—Give consultation to public health personnel in all phases of public health nursing, including inservice education; prepare manuals, guides, etc., for public health nurses; assist in administration of program. Bachelor's degree in public health nursing minimum preparation; master's degree desirable; four years' experience in public health nursing, including two in administration or supervision. Salary: start at $6,768, maximum $8,088. Civil service, vacation, sick leave, Social Security, and retirement benefits. Write Miss Ione M. Rowley, R.N., Director, Public Health Nursing, 119 Monona Ave., Madison 3, Wis.

Public Health Nurse III (District Advisory Nurse)—Give guidance and counseling to all public health nurses in a multiple-county area regarding community organization and relationships, program planning, public health nursing technics, records, and reporting. Responsible for inservice education program for local public health nurses and evaluation of nursing services. Salary range $5,688-$6,768, plus travel allowance. B.S. degree with major in public health nursing and three years' generalized experience as a public health nurse. Special requirement: registration or eligibility therefor as a registered nurse in Wisconsin; certification or eligibility for certification as a public health nurse in Wisconsin. Write R. J. Siesen, Personnel Officer, State Board of Health, Madison 2, Wis.

Executive Director—Pennsylvania Health Council. October 1st. M.P.H. Beginning salary $7,800. Contact Clement W. Hunt, 303 North Second St., Harrisburg, Pa.

Public Health Educator III (School Health)—Initiate and develop school-community health education programs in a multi-county district. Desirable qualifications: M.P.H. degree, plus two years' experience in health education; sound working knowledge of principles of education and methods of teaching. Salary starts at $6,048, maximum $7,188. Travel allowance, vacation, sick leave, retirement, group insurance plans. Write Dr. Amy L. Hunter, Director, Bureau of Maternal and Child Health, Wisconsin State Board of Health, Madison 2, Wis.

Public Health Educator III (Dental Hygienist)—Assist in developing dental health programs for preschool and adult groups in a several county area. Coordinate dental health education activities with over-all health education program. College graduation, a year of graduate training in an accredited school of public health, and two years' experience. Licensure or eligibility for licensure to practice dental hygiene in Wisconsin essential. Salary starts at $6,048; maximum $7,188. Civil service, vacation, sick leave, Social Security, and retirement benefits. Write R. J. Siesen, Personnel Officer, State Board of Health, 400 State Office Bldg., Madison 2, Wis.

Medical Social Worker — Tuberculosis hospital, Ohio. Salary open. Contact E. F. Conlogue, M.D., Medical Superintendent, Stillwater Sanatorium, 8100 North Main St., Dayton 5, Ohio.

Social Work Administrator—State Board of Health, Child Guidance Division, Madison 2, Wis., Amy L. Hunter, M.D. Creative pioneering opportunity for mature, experienced social worker. Plan and integrate social work facets of public health program for prevention of emotional health problems; team approach in organization and coordination of various state-wide educational and consultation projects, including inservice training of state and local public health personnel and other professionals; education of lay groups; emphasis on discussion process to increase understanding and enhance constructive attitudes supportive of primary prevention; supervise several social workers serving on a district level in the above program. Headquarters: Madison. Requirements: M.S.W.; minimum of five years' relevant experience, mainly in community child guidance clinic team, including two years as a social work supervisor. Salary $7,368-$8,748.

Medical Technologist I — Salary range $72-$86 per week. Open to male and female resident citizens of the United States who possess the minimum qualifications. Complete details may be secured by writing to the Personnel Director, Municipal Bldg., Hartford, Conn.

Microbiologist — for large, excellently equipped and staffed laboratory to direct bacteriology, serology, and tuberculosis laboratories. Outstanding opportunity for clinical research in university affiliated institution. Excellent working conditions, pension plan and fringe benefits. Annual salary for M.D. eligible for certification by the American Board of Pathology $13,931-$15,262 in three years, for experienced Ph.D. $9,674-$12,149 in six years. Contact Dr. Henry P. Schwarz, Philadelphia General Hospital, Philadelphia, Pa.

Director, Vital Statistics — for the Colorado State Department of Public Health. Offices in Denver, Colo. Salary $570-$727 per month. Depending on qualifications, may start at $628 per month. Qualifications: master's degree in statistics or related field and five years' experience, two of which must have been in a supervisory capacity in a vital statistics unit or related program. Address inquiries to Dalton Roberts, Chief, Administrative Services, Colorado State Department of Public Health, 420 State Office Bldg., Denver 2, Colo.

Public Health Analyst I or II—One new position in progressive health department for technical consultant to assist with planning and coordinating statistical activities. Bachelor's degree in statistics or related field and one year of public health experience minimum preparation. Beginning salary: Public Health Analyst I — $5,796-$7,044; Public Health Analyst II — $7,044-$8,556. For details, write to San Diego County Personnel Department, 403 Civic Center, San Diego 1, Calif.

Public Health Nutritionist—to work with Bureau of Maternal and Child Health as consultant for staff, schools, and community agencies and to give direct services to persons with nutritional problems. Master's degree in public health and one year of recent experience minimum preparation. Salary being reviewed. For details, write to San Diego County Personnel Department, 403 Civic Center, San Diego, Calif.

Sanitarians—Higher salaries are being offered to qualified sanitarians by the Public Health Services Section of the Philadelphia Department of Public Health. The work will include analysis of forms of ionization radiation, air pollution control, and accident prevention, as well as the routine problems associated with milk and food establishments. New employees will start at $5,348; liberal fringe benefits. For information call Mr. Speck at LO 7-0290, or write Room 504, City Hall Annex, Philadelphia 7, Pa.

POSITIONS WANTED

On Box Numbers, Address APHA at 1790 Broadway, New York 19, N. Y.

Teacher of Preventive Medicine and Public Health — Physician desires teaching position on medical school or public health school faculty. Academic degrees: M.D., M.P.H., Dr.P.H. Numerous publications. Previous teaching and health department experience. Special interests are epidemiology, biostatistics, and preventive medicine. **Box PH-3,** Employment Service, APHA.

Pediatrician—Male, age 37. Certified by National Board of Medical Examiners and American Board of Pediatrics. Private practice three years; director of medical education, large teaching center two and a half years; director, pediatric outpatient services, same teaching center, additional two and a half years (position still held). Desire post in clinical investigational or institutional pediatrics, or in medical education. **Box PH-4,** Employment Service, APHA.

Chief Chemist — Medical college Ph.D., 1955. Male, age 41. State health department chemist three and one half years—food, drug, and water analyses, radioactivity monitoring. Eight years prior in tobacco research. Health, Education, and Welfare Department's specialized training courses. Presently employed. Available in the United States or abroad upon respectable termination notice. **Box M-25,** Employment Service, APHA.

Sanitarian — M.S., biology; M.P.H., sanitary science; age 32. Four years' experience in a generalized sanitation program. Two years' teaching of bacteriology, microbiology, and public health in an accredited college. Eastern location preferred. Available June 15. **Box S-36,** Employment Service, APHA.

Social Work Consultant—Three years of generalized case and program consultation experience in a large county public health department. Responsibilities have also included community council development, interagency coordination for health planning, and implementation of health department—community mental health service. Desire East Coast position in public or private agency with opportunity to work in or develop similar program. **Box SW-2,** Employment Service, APHA.

Public Health Education Experience Desired—Will receive B.S. degree in health education on June 3rd. Male, married, age 25. Wish to study for M.P.H. after three years' experience. Prefer Western states, others considered. **Box HE-94,** Employment Service, APHA.

Commercial Advertisements

All communications on the following commercial advertisements should be sent to Burneice Larson, Medical Bureau, Suite 605, 900 North Michigan Avenue, Chicago 11, Ill.

OPPORTUNITIES AVAILABLE

(a) M.D. public health administrator, newly created position as assistant director in state program, $16,000; Midwest; (b) M.D. Health commissioner, county seat near major midwest industrial center; $17,000; (c) Director of West Coast county health services; medical director, 350-bed hospital; (d) Physician act as chief, Maternal and Child Health; organize and direct activities in county school, health clinics; ideal Pacific Coast resort area; (e) Epidemiologist, attractive position; provide medical services in control of tuberculosis, cancer, heart disease, diabetes; expanding progressive midcentral state health department, $14,000-$16,500; (f) Nurse to coordinate student health program, 150 enrolled; 300-bed hospital, near Chicago; $4,800-$6,000; (g) Director, VNA well established program, university city, New York, top salary; (h) Public health foreign assignment, work with Americans overseas; $5,000-$11,000; (i) Public health nurse instructor, university appointment, $600 month; 10-month year.

SITUATIONS WANTED

(1) Medical director, 15 years' experience renowned industrial organizations, United States and overseas; M.D., D.P.H.; M.S. in Administrative Medicine, Columbia University; (2) Public health nurse administrator, B.S., M.A. public health, Columbia University, five years city-county health department; seven years director community health center.

BOOK REVIEWS

All reviews are prepared on invitation. Unsolicited reviews cannot be accepted.

FRESH WATER BIOLOGY (2nd ed.)—By Henry B. Ward and George C. Whipple. Edited by W. T. Edmondson. New York, N. Y.: Wiley (440 Fourth Ave.), 1959. 1248 pp. Price, $34.50.

The care and thought which has been applied to the revision and rewriting of this classic text is indicated in some measure by the fact that W. T. Edmondson and 50 outstanding collaborators spent eight years in its preparation. Originally, as published in 1918, Ward and Whipple was a source book for general biology and included a section on parasitology as well as portions dealing with the habits and ecology of aquatic animals and plants. Because excellent texts are now generally available in several of the areas treated in the original edition and to reduce the bulk of the present book, extensive deletions have been made; most of the bulky material relating to general biology has been left out as have specialized subjects not primarily aquatic in nature. Other sections, however, have in some instances been expanded because of a recognized need. Thus the part dealing with parasites, which in the main are not aquatic, has been dropped while bacteria and vascular plants have been given more detailed treatment.

Although in many chapters nothing of the previous edition appears to remain, it is clear that the old contributors have, nevertheless, had their distinct influence. Those familiar with the original text will recognize that, in general, the good features have been retained with modern improvements added. The taxonomy has been brought up to date, as was essential, but wherever the changes have been drastic, an attempt has been made to associate the old with the new and the synonomy is pointed out. One criticism which may be made is that, probably due to differences in viewpoints, all sections are not given a completely uniform treatment. Also, it is apparent that an all-inclusive glossary should be added if the volume is to achieve complete self-sufficiency.

In essence, the book is now a series of illustrated keys for identification, each key being preceded by supplementary information essential to its use. These keys, with a few exceptions, are easily followed by the nonspecialist and in most instances may lead the student to a generic identification, although frequently specific determinations can be made. The user is expected to bring, as his own contribution, only a general knowledge of the morphology and life history of the group with which he is concerned.

The new revision is intended for any scientific worker who, in the course of his professional pursuits, is concerned with aquatic ecology and aquatic organisms and for advanced students in zoology and botany. It is recognized that in many instances an investigator must have the authoritative identification provided by a specialist; in such situations the book can be expected to provide the basis for a valuable preliminary identification. Limnologists, public health engineers, sanitarians, sanitary engineers, public health biologists, fisheries biologists, systematists, and many other specialists will find this publication an indispensable tool. Because of its wealth of fundamental information it should be available to the personnel of all well equipped laboratories concerned with the aquatic environment or with problems relating to water supply and pollution

control. Since it represents a basic and authoritative reference which crosses an extremely wide range of specialized knowledge available in no other single volume, this book is well worth the price which is asked. THEODORE A. OLSON

HOW CHILDREN LEARN TO SPEAK—By M. M. Lewis. New York, N. Y.: Basic Books (59 Fourth Ave.), 1959. 143 pp. Price, $3.00.

This small volume on children's speech should be of interest to child psychologists, educators, and pediatricians who are doing intensive work in the area of early child development. A descriptive summary of the infant's initial vocalizations is presented. In exploring the meaning of the child's early vocalizations, these are related to sounds of comfort and discomfort according to the original theories of Darwin. Subsequently, the discussion deals with the way in which these sounds are modified as the child's own central nervous system matures and as he communicates with his environment until comprehensible, meaningful speech is achieved.

Since verbal communication is of such fundamental importance in the child's ability to master his environment, to master his own feelings and impulses, and in his relationship to other human beings, almost every phase of speech development is of intrinsic interest. However, it is my impression that the early sections of the book, with the detailed descriptive material on early vocalizations, may be too extensive to be applicable to the work of many pediatricians and other professional workers.

Some of the outstanding aspects of this work for those who do have special interest in the field should be mentioned. One desirable feature is the emphasis on multiple factors determining speech development, including both maturational ones and environmental ones, as well as the emotional associations and the human relationships in which communication takes place. It is also commendable that rather than stressing normative data concerning the average time of appearance of certain verbalizations, there is continued emphasis on the orderly unfolding of speech patterns in individual children and on the range of normal rather than statistical means. The book is well documented with an extensive series of carefully recorded observations. BARBARA MARIA KORSCH

DIGEST OF OFFICIAL ACTIONS — 1846-1958—By F. J. L. Blasingame. Chicago, Ill.: American Medical Association (535 North Dearborn St.), 1959. 779 pp. Price, $5.00.

This volume is an annotated reference of actions of the AMA during the period mentioned in the title. A number of sections contain a record of actions of direct interest to private practicing physicians or persons especially concerned with the operation of medical societies. There are also section headings for accidents, aging, alcoholism, maternal and child care, school health, civil defense, foods and nutrition, hospital accreditation and registration, mental health, occupational health, public health, public health education, radiation and radiology, rural health, tuberculosis, venereal diseases, vision and blindness, and other headings of interest to public health professional personnel. This digest is highly recommended as a reference volume for past or present actions of the American Medical Association.

THOMAS R. HOOD

MANUAL OF INDUSTRIAL RADIATION PROTECTION, PART II — MODEL CODE OF SAFETY REGULATIONS (IONIZING RADIATIONS). Washington, D. C.: International Labor Office (917 15th St., N. W.), 1959. 54 pp. Price, $.75.

This 54-page booklet constitutes Part II of a proposed five-part manual on the subject. In addition, it is Chapter XI, Section 2, of the Model Code of Safety

Regulations for Industrial Establishments for the Guidance of Governments and Industry; parts III, IV, and V remain to be published. The booklet is written in the form of a regulatory code. In addition to the usual sections on definitions and scope, it covers such topics as maximum permissible doses, general provisions, sealed sources and equipment generating ionizing radiations, and unsealed radioactive sources. The material was prepared by a group of international experts from the United Kingdom, France, the Federal Republic of Germany, the USSR, and the United States.

Excluded from the code are radioactive substances having a specific activity of less than 0.002 microcurie per gram and sealed sources the use of which involves exposures under 2 mrh. The specific activity limitation is based upon airborne contamination by plutonium, and therefore provides a considerable safety factor for other radionuclides and conditions of exposure.

The proposed regulations are in general conformity with codes proposed by various governmental agencies in the United States. In the opinion of the reviewer it is questionable if the booklet should be termed a "manual," since it is a proposed regulation and not a source of information on the "why" and "how" of radiation protection which he believes one generally expects to find in a manual. KENNETH M. MORSE

RELEASED MENTAL PATIENTS ON TRANQUILIZING DRUGS AND THE PUBLIC HEALTH NURSE—By Ida Gelber. New York, N. Y.: New York University Press (Washington Square), 1959. 139 pp. Price, $3.00.

This monograph attempts to define the role of the public health nurse in the follow-up of released mental patients. Mrs. Gelber did a survey of selected state mental hospital authorities to see how the public health nurse was being used and how she could be used.

She also did a study of 100 posthospital patients who were on tranquilizers and were being followed at an after-care clinic. She outlines the areas where the patients' needs were not being met and could be met by public health nursing function. This is an interesting, careful study, pointing up an area in the care of the mentally ill which has not been sufficiently stressed in program planning before. DAVID SANDERS

COMMUNITY ORGANIZATION 1959—New York, N. Y.: Columbia University Press (2960 Broadway), 1959. 133 pp. plus vi. Price, $2.50.

The 12 papers in this volume, selected from the large number of papers presented at the 1959 86th Annual Forum of the National Conference on Social Welfare, by no means represent an orderly textbook review of either the philosophy, theory, or practice of community organization. They were chosen to satisfy the Selection Committee's desire "to achieve a balance between the general and the specific and, at the same time, to include as great a variety as possible of the settings in which community organization is practiced."

Thus, two papers fit into the general category of community organization; one on elements of prevention of social pathology, the second on interagency teamwork. Two papers deal with financing voluntary health programs; several deal with the use of community organization knowledge and skills in specific settings and in solving specific problems in housing, urban renewal, juvenile delinquency prevention, helping community programs for the mentally retarded, and a state-wide action to change residence laws. The final paper discusses reasons why people work as volunteers.

Of particular interest to health workers are the papers on financing health programs by Lyman S. Ford, executive director, United Community Funds and Councils of America, and Melvin Glas-

ser, executive vice-president, National Foundation; and the discussion entitled "Is Prevention Possible" by Bradley Buell, executive director, Community Research Associates, in which he concludes that social welfare programs can help prevent, reduce, and control the practical human problems of people who fall below the standard our society believes essential to the maintenance of our way of life.

This small volume should be of interest to readers relatively knowledgeable in the theory and practice of community organization and who are curious about the specific problems discussed in the papers. NATHANIEL H. COOPER

PRINCIPLES OF RADIATION DOSIMETRY—By G. N. Whyte. New York, N. Y.: Wiley (440 Fourth Ave.), 1959. 124 pp. Price, $7.00.

In producing a brief but scholarly review of the principles and practices in which the serious student of radiation dosimetry must be knowledgeable, the author has made little attempt to play nursemaid to the neophyte in this discipline of little-appreciated complexity.

The material is up to date, concise, and is presented with outstanding precision of statement and terminology. In nine short chapters, Dr. Whyte discusses the meaning of the radiation field, interactions of radiation with matter, determination of x-ray spectral distributions, measurement of x-ray intensity, exposure dose and absorbed dose, dosimetry of charged particles and neutrons, and secondary instruments.

The author is a leading international expert in dosimetry and could justifiably have enlarged his presentations by drawing upon the bibliographical references appended to each chapter. Instead, with marked restraint, he provides only the briefest review necessary to introduce the reader to the supporting literature so important for complete understanding of each subject.

Public health programs in radiological health depend on the science of radiation dosimetry, a science now just emerging from its "dark ages." This book, written by a leader in creating the science, should be read and understood by all persons directing technical portions of radiological health programs.

HENRY J. L. RECHEN

AMERICAN MARRIAGE AND DIVORCE—By Paul H. Jacobson. New York, N. Y.: Rinehart (232 Madison Ave.), 1959. 188 pp. Price, $12.00.

In his preface the author says, "This book deals with the occurrence, duration, and dissolution of marriage in the United States." It does. Seventy-four tables summarize the numerical facts. Twenty-nine tabular appendixes describe the population of births by sex from 1900 to 1950, by sex and marital status, and by age and sex and marital status. You can also find the median age of marital partners by race according to age of groom and age of bride.

The introduction describes the national system of marriage and divorce statistics. Chapter 1 describes the "trend of marriage": the marriage rate since 1860, also related to economic conditions, war, etc. Chapter 2 gives the seasonal pattern of marriage, e.g., the preference for June drops in the case of remarriage. Chapter 3 gives geographic variations in the marriage law, both international and interstate. Chapter 4 considers marriages by type of ceremony. Chapter 5 considers the marriage rate as a function of race, of age, the influence of previous marital status, i.e., annual marriage rates for single, widowed, and divorced persons. Chapter 6 examines the chances of marriage and remarriage by age and previous marital status. Chapters 7, 8, and 9 describe the divorce rates in similar detail. Chapter 10 examines the numerical data available on what happens to the children in case of divorce. Chapter 11

relates mortality to the duration of marriage.

This is more than a book of tables. The commentary is literate, informative, and readable. The book is of unusual dimensions, 9 x 10 inches. The print is photo-offset, unjustified, but easily read. Upshot: a useful resource.

J. McV. Hunt

PUBLIC HEALTH—THE REFERENCE SHELF (VOL. 31, NO. 6)—Edited by Peter Van Avery. New York, N. Y.: H. W. Wilson (950 University Ave.), 1959. 242 pp. Price, $2.50.

Doubtless this little volume is intended as a superficial reference work for the quick orientation of students who do not wish to delve very deeply. The public health title is used as a generic term, covering quite a potpourri of rather long quotations from a mixture of lay and professional sources, strung together very loosely under general subheadings. Without so much as a definition of public health in the volume, the reader must be more confused than enlightened.

It seems remarkable that regarding the United States, where some still hold that the state is the basic unit of government, no mention is made of the duties and functions of state health departments. The reviewer is also grieved that only the cost of illness is covered under the heading "Uncle Sam's Health Record," and neither the price of health (positive) is mentioned nor the great human and economic benefit realizable to the individual and the nation through public health measures for health improvement.

Thomas R. Hood

A READER'S GUIDE TO THE SOCIAL SCIENCES—Edited by Bert F. Hoselitz. Glencoe, Ill.: Free Press (119 West Lake St.), 1959. 256 pp. Price, Paperback, $2.95; Cloth, $6.00.

While this volume is designed primarily for librarians, as a guide to the literary output of the various social sciences, it will also be read with interest and profit by other professional workers and the general reader. It presents well written and only moderately technical chapters on history, geography, political science, economics, sociology, anthropology, and psychology. For each field and its literature, there is a historical review; discussion of nature, scope, and present status, and presentation of issues of current interest within the field. The volume is indexed by the author, but not by subject. A subject index would greatly enhance its utility. The book is available in both a paperback and library edition.

BOOKS RECEIVED

Listing in this column acknowledges the receipt of books and our appreciation to the senders. Space and the interests of readers will permit review of some, but not all, of the books listed.

Cardiovascular Disease Nursing. Edited by C. B. Mattingly. Washington, D. C.: Catholic University of American Press, 1960. 264 pp. Price, $3.50.

Care of Children in Hospitals. Committee on Hospital Care, American Academy of Pediatrics. Evanston, Ill.: The Academy, 1960. 96 pp. Price, $1.50.

Carter's Microbiology and Pathology (7th ed.). Alice Lorraine Smith. St. Louis, Mo.: Mosby, 1960. 742 pp. Price, $7.50.

Central Nervous System and Behavior. Selected Translations from the Russian Medical Literature. Bethesda, Md.: National Institutes of Health, 1959. 1051 pp.

Community Development in Ghana. Peter

Du Sautoy. New York, N. Y.: Oxford University Press, 1958. 209 pp. Price, $2.40.

CURRENT APPROACHES TO PSYCHOANALYSIS. Paul H. Hock and Joseph Zubin. New York, N. Y.: Grune & Stratton, 1960. 207 pp. Price, $6.50.

EXPLORATIONS IN THE PHYSIOLOGY OF EMOTIONS. Edited by Louis J. West and Milton Greenblatt. Washington, D. C.: American Psychiatric Association, 1960. 271 pp. Price, $2.00.

GLAUCOMA. Transactions of the Fourth Conference March 8-10, 1959. Frank W. Newell, Editor. New York, N. Y.: Josiah Macy, Jr. Foundation, 1960. 257 pp. Price, $8.00.

GROWING UP IN NEWCASTLE UPON TYNE. F. J. W. Miller, et al. New York, N. Y.: Oxford University Press, 1960. 369 pp. Price, $5.75.

GUIDE TO A COMMUNITY HEALTH STUDY—FOR FIELD TESTING ONLY. American Public Health Association. New York, N. Y.: The Association, 1960. 231 pp. Price, $2.25.

HANDBOOK OF DISEASES OF THE SKIN (6th ed.). H. O. Mackey. Dublin, Ireland: C. J. Fallon, 1960. 263 pp. Price, 8/6 net.

HEALTH OF BUSINESS EXECUTIVES. Transactions of a One-Day Conference, Royal Festival Hall, London, November 20, 1959. London, England: Chest and Heart Association, 1960. 128 pp. Price, $3.25.

HEALTH OF PEOPLE WHO WORK. Challenges of Occupational Health. Edited by Albert Q. Maisel. New York, N. Y.: National Health Council, 1960. 268 pp. Price, $4.50.

INDUSTRIAL SAFETY LEGISLATION IN NEW JERSEY. Philip H. Burch, Jr. New Brunswick, N. J.: Rutgers—The State University, 1960. 45 pp. Price, $1.00.

LOW SODIUM, FAT-CONTROLLED COOKBOOK (revised). Alma S. Payne and Dorothy Callagan. Boston, Mass.: Little, Brown, 1960. 165 pp. Price, $4.75.

MEDICINE AND THE OTHER DISCIPLINES. Edited by Iago Galdston. New York, N. Y.: International Universities Press, 1960. 192 pp. Price, $3.00.

MENTAL DISORDERS IN URBAN AREAS. AN ECOLOGICAL STUDY OF SCHIZOPHRENIA AND OTHER PSYCHOSES. Robert E. L. Faris and H. Warren Dunham. New York, N. Y.: Hafner, 1960. 270 pp. Price, $4.75.

NATION'S CHILDREN, THE:
1. THE FAMILY AND SOCIAL CHANGE. 252 pp.
2. DEVELOPMENT AND EDUCATION. 242 pp.
3. PROBLEMS AND PROSPECTS. 242 pp.
Edited by Eli Ginzberg. New York, N. Y.: Columbia University Press, 1960. Price, $4.50 each.

NEUROSURGERY, VOL. II. Medical Department, United States Army. Surgery in World War II. S. G. Hays, et al. Washington, D. C.: U. S. Gov. Ptg. Office. 705 pp. Price, $7.00.

NEWER VIRUS DISEASES. CLINICAL DIFFERENTIATION OF ACUTE RESPIRATORY INFECTIONS. John M. Adams. New York, N. Y.: Macmillan, 1960. 292 pp. Price, $5.75.

PLASMA PROTEINS. VOL. I—ISOLATION, CHARACTERIZATION, AND FUNCTION. F. W. Putnam. New York, N. Y.: Academic Press, 1960. 420 pp. Price, $12.50.

POLYSACCHARIDES IN BIOLOGY. Transactions of the Fourth Conference, May 21-23, 1958. Georg F. Springer, Editor. New York, N. Y.: Josiah Macy, Jr. Foundation, 1960. 326 pp. Price, $5.95.

PRINCIPLES OF ANIMAL VIROLOGY (2nd ed.). F. M. Burnet. New York, N. Y.: Academic Press, 1960. 490 pp. Price, $12.00.

PRINCIPLES OF CLEFT PALATE PROSTHESIS. Cloyd S. Harkins. New York, N. Y.: Columbia University Press, 1960. 219 pp. Price, $12.00.

PRINCIPLES OF PUBLIC HEALTH ADMINISTRATION (3rd ed.). John J. Hanlon. St. Louis, Mo.: Mosby, 1960. 714 pp. Price, $10.50.

PROBLEMS IN THE EVALUATION OF CARCINOGENIC HAZARD FROM USE OF FOOD ADDITIVES. Food Protection Committee—Food and Nutrition Board. Washington, D. C.: National Academy of Sciences, National Research Council, 1959. 44 pp. Price, $1.00.

RELEASE FROM SEXUAL TENSIONS. Mary Steichen Calderone. New York, N. Y.: Random House, 1960. 238 pp. Price, $4.95.

REPORT OF THE NUTRITION COMMITTEE FOR THE MIDDLE EAST. CAIRO, NOVEMBER 18-26, 1958. Sponsored by FAO and WHO. Rome, Italy: Food and Agriculture Organization of the United Nations, 1959. 55 pp. Price, $.50.

RESEARCH AND THE ULCER PROBLEM. I. S. Blumenthal. Santa Monica, Calif.: Rand Corporation, 1960. 81 pp.

ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN 1860-1960. Douglas Guthrie. Baltimore, Md.: Williams & Wilkins, 1960. 75 pp. Price, $4.25.

SELF-IMAGE OF THE FOSTER CHILD. Eugene A. Weinstein. New York, N. Y.: Russell Sage Foundation, 1960. 80 pp. Price, $2.00.

SIGERIST, HENRY E.—ON THE HISTORY OF MEDICINE. Edited by Felix Martí-Ibañez. New York, N. Y.: MD Publications, 1960. 313 pp. Price, $6.75.

SIGERIST, HENRY E.—ON THE SOCIOLOGY OF MEDICINE. Edited by Milton I. Roemer. New York, N. Y.: MD Publications, 1960. 397 pp. Price, $6.75.

STREETWALKER. Anonymous. New York, N. Y.: Viking Press, 1960. 178 pp. Price, $3.50.

STUDIES IN REMEMBERING. PSYCHOLOGICAL ISSUES, VOL. 1, NO. 2, 1959. Irving H. Paul. New York, N. Y.: International Universities Press, 1959. 152 pp. Price, $3.50.

TEXTBOOK OF HEALTHFUL LIVING (6th ed.). Harold S. Diehl. New York, N. Y.: McGraw-Hill, 1960. 484 pp. Price, $6.75.

THEORETICAL STUDIES IN SOCIAL ORGANIZATION OF THE PRISON. Richard A. Cloward, et al. New York, N. Y.: Social Science Research Council, 1960. 146 pp. Price, $1.50.

WHOLE TRUTH ABOUT ALLERGY, THE. Herman Hirschfeld. New York, N. Y.: Allergy Publishers, 1960. 196 pp. Price, $.50.

XYLOCAINE. THE PHARMACOLOGICAL BASIS OF ITS CLINICAL USE. Sten Wiedling. Stockholm, Sweden: Almqvist & Wiksell, 1959. 146 pp.

A SELECTED PUBLIC HEALTH BIBLIOGRAPHY WITH ANNOTATIONS

Raymond S. Patterson, Ph.D., F.A.P.H.A.

"Londonderry Air" — This music title is called pointedly to mind by an account of a typhoid fever outbreak in a village given over to harboring British vacationists in "hutments and caravans" (cabins and trailers, to you!) most of them without decent provisions for sewage disposal; ". . . excreta are buried at random . . . or thrown over the cliff faces at night," we are told. Also, "the health department had predicted for years that these hutments and large numbers of caravans might at any time give rise to an epidemic. . . ." The prediction belatedly but vigorously came to life.

BREWSTER, J. H., et al. A Typhoid Fever Outbreak at Ballyreagh, Co. Londonderry. M. Officer 103, 10:133 (Mar. 4), 1960.

Future Research Headache—In a recent epidemic, Coxsackie and ECHO viruses were responsible for more cases of "nonparalytic poliomyelitis" (and "aseptic meningitis") than were the polioviruses. Difficulties in determining the values of prophylactic procedures may be anticipated, if this experience is to be repeated in years to come.

BROWN, G. C., et al. Laboratory Data in the Detroit Poliomyelitis Epidemic — 1958. J.A.M.A. 172, 8:807 (Feb. 20), 1960

Oral Poliovaccines — Reassuring is this report on the work of testing oral vaccines in clinical trials involving many thousands of individuals in both North and South America. It is said that all the trials demonstrated the vaccine's effectiveness, safety, and absence of the undesirable reactions.

CABASSO, V. J., et al. Cumulative Testing Experience with Consecutive Lots of Oral Poliomyelitis Vaccine. Brit. M. J. 5170:373 (Feb. 6), 1960.

Helping the Disturbed — It seems that, in England, there is now legal basis for an effective integrated preventive and therapeutic service for the mentally and emotionally ill. Something is really being done by health and hospital authorities to work closely with general medical practitioners to put the legal measures to work. Those of us, hereabouts, who have any concern—even any curiosity—about mental health will want to review

these three papers by a health officer, a practicing physician, and a hospital consultant.

DONALDSON, R. J., et al. Reorientation in Mental Health. Roy. Soc. Health J. 80, 1:11 (Jan.-Feb.), 1960.

Cranks, et al.—We who strive to improve the standards of individual and/or public health are often frustrated by quacks, health faddists and the congenitally suspicious. Surveying the handiwork of these monkey-wrench throwers, this professor of hygiene concludes that the best way for us to succeed is to advance our causes with logic, dignity, and enthusiasm, cultivating "a tolerant understanding of those whose needs for public notoriety are not in accord with the best interests of the community."

FARNSWORTH, D. L. Emotional Obstacles to Health Programs. J. School Health 30, 2:496 (Feb.), 1960.

Infections Yet to Be Conquered—About the most revealing and persuasive discussion of research possibilities in true health promotion that you will find in many, many moons is this recounting of what is now being attempted in preventive medical research, and what should be the object of (expensive) study. Here you will find the perfect antithesis to "positive health" promotion via sloganeering.

FRANCIS, T., Jr. Research in Preventive Medicine. J.A.M.A. 172, 10:993 (Mar. 3), 1960.

Unfinished Business—Those of us who have washed our hands of any concern about the control of gonorrhea (on the happy assumption that the public health job is done and over with) will do well to read these two papers pointing out promising improvements in diagnostic and treatment technics which, someday, may help us get the job done.

GARSON, W., and BARTON, G. D. Problems in Re-Diagnosis and Treatment of Gonorrhea (and) DEACON, W. E., et al. Fluorescent Antibody Tests for Detection of the Gonococcus in Women. Pub. Health Rep. 75, 2:119 (Feb.), 1960.

Really to Know—Reporting upon the twenty years of growth of the pioneering Cleveland Health Museum, the director takes the occasion to talk about productive health education, in general, and health exhibits in particular. He mulls over ways to keep a museum from becoming a mausoleum. In an accompanying editorial there is mention of the Ontario Medical Society's "Mediscope '59," something that you may want to know about.

GEBHARD, B. The Cleveland Health Museum Comes of Age. Canad. J. Public Health 51, 2:43 (Feb.), 1960.

Pasteurized Water—This idea may be new to you. Described and illustrated is a suggested water pasteurizer for use in a household or small living unit that must depend upon a potentially polluted water supply. The operating cost, on a domestic scale, is about $1 per 1,000 gallons. This is high but the product is more assuredly safe than one treated by a home chlorine application under lay operation.

GOLDSTEIN, M., et al. Continuous Flow Water Pasteurizer for Small Supplies. J. Am. Water Works A. 52, 2:247 (Feb.), 1960.

Infections Still with Us—A joint discussion of the status of tuberculosis, hepatitis, and staphylococcus infections in both homes and hospitals seems of wide public health interest in as much as its attention is turned more toward family outbreaks than to hospital hazards.

GREENBERG, M., et al. Control of Infectious Hazards in Home and Hospital. New York J. Med. 60, 6:846 (Mar. 15), 1960.

It's the Variations that Count—This quotation should tell you whether or not you will find much of immediate interest to you in the study reported upon: "Certainly any one determination

(of blood cholesterol level) is valueless in determining the chances of one individual developing clinical manifestations of coronary disease."

GROOVER, M. E., Jr., et al. Variations in Serum Lipid Concentration and Clinical Coronary Disease. Am. J. M. Sc. 239, 2:133 (Feb.), 1960.

Anent Influenza Vaccines—Institutional inmates were vaccinated with Asian influenza vaccines (of three varying potencies). Then six weeks later an appropriate epidemic arrived, to be followed in six months by a second wave. The vaccine with the least "units" had only half the protective value of the more potent vaccines during the first epidemic. But during the second wave all three vaccines gave nearly equal protection. This paper and an accompanying one on values of polyvalent vaccines will have much of interest to readers in all professional categories.

DULL, H. B., et al. Monovalent Asian Influenza Vaccine (and) JENSEN, K. E., et al. Immunization with Polyvalent Influenza Vaccines. J.A.M.A. 172, 12:1223 (Mar. 9), 1960.

Influencing People—Public health nurses especialy are urged, in this address, to join in the effort to induce people to want and demand water fluoridation, for in the course of their work nurses meet men and women when they are most susceptible to suggestion. All that this dental authority says is undeniably pertinent and true. One might wish that his call to arms might also be addressed to the rest of us in the health field, for others, too, deal with people when they are susceptible to suggestion. There is a big job here in which all can help.

KNUTSON, J. W. Fluoridation—Where Are We Today? Am. J. Nursing 60, 2:196 (Feb.), 1960.

Q Fever News—"Bovine Q fever must now be considered endemic throughout the United States, since infections are widespread and occur in all 35 states recently studied. . . . The spread of infection is expected to continue and may even accelerate in the future. . . . Human disease . . . is already a public health problem in some areas . . . and is being recognized in others previously considered to be free of infection."

LUOTO, L. Report on the Nationwide Occurrence of Q Fever in Cattle. Pub. Health Rep. 75, 2:135 (Feb.), 1960.

Fibrinolysin and Phlebitis—Of two comparable groups of patients with acute deep thrombophlebitis of less than ten days' duration, a control group (30 patients) was treated with anticoagulant drugs alone and another (32 patients), with intravenous fibrinolysin, plus anticoagulant drugs. The results suggest that a combined fibrinolysin-anticoagulant regimen leads to a more rapid resolution of the acute phlebitic episode than anticoagulant drugs alone.

MOSER, K. M., et al. Fibrinolysin (Plasmin) Therapy in Acute Deep Thrombophlebitis: A Controlled Study. Circulation 21, 3 (part 1): 337 (Mar.), 1960.

Department of Human Cussedness—Demonstrations of the dental health value of fluoride in drinking water were set up in three Scottish towns. Though the experience is still too short to offer more than suggestions of future improvements, there has been ample time for the familiar manifestations of human cussedness to appear. We may take some comfort in the knowledge that America has no monopoly on cracked pots.

NISBET, B. R. Fluoridation—The Experience in the Scottish Borough of Kilmarnock. Sanitarian (Br.) 68, 5:259 (Feb.), 1960.

Research Milestone—Too few findings coming from the (British) research unit on common colds seem to be published in the American scientific publications that are readily available to health people generally. Three reports on (1) virus isolations from experi-

mental colds, (2) virus interference in human embryo kidney tissue cultures, and (3) cytopathic effects upon these tissue cultures should somehow be made known to more of the readers of our journal than are likely to see them. Of course, there is much too much in the three papers to be adequately annotated here.

TYRRELL, D. A. J., et al. Some Virus Isolations from Common Colds. Lancet 7118:235 (Jan. 30), 1960.

Hints for Smokers—From new research come suggestions for the cigarette smoker that may help him to reduce the cancer hazard: cut down on numbers smoked; use filter cigarettes with lowest yields of smoke condensate (yields shown in table of brands); smoke only half the cigarette; don't inhale deeply.

WYNDER, E. L., and HOFFMANN, D. Some Practical Aspects of the Smoking-Cancer Problem. New England J. Med. 262, 11:540 (Mar. 17), 1960.

If additional information is desired regarding the articles listed in this bibliography, please communicate directly with the publication in which they appeared; the addresses are furnished for your convenience.

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Circulation, American Heart Association, Inc., 44 East 23rd St., New York, N. Y.
J.A.M.A. (Journal of the American Medical Association), 535 N. Dearborn St., Chicago, Ill.
J. Am. Water Works A. (Journal of the American Water Works Association), 2 Park Ave., New York 16, N. Y.
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M. Officer (Medical Officer), Chronicle House, 72-78 Fleet St., London, E.C.4, England.
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New York J. Med. (New York State Journal of Medicine), 386 Fourth Ave., New York, N. Y.
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Roy. Soc. Health J. (Royal Society for the Promotion of Health Journal), 90 Buckingham Palace Road, London, S.W.1, England.
Sanitarian (National Association of Sanitarians), University of Denver, UPC, Department of Sanitary Science, Denver 10, Colo.

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Food Additive Education

For the Public

The Food and Drug Administration has issued "What Consumers Should Know About Food Additives." This tells the story of how additives came to be developed and used in food production, why safeguards are necessary and what the new laws require, with special reference to controls over pesticides and coal-tar colors. The booklet bows to the fact that additives have contributed much to the progress of modern food technology and explains how. Government Printing Office, Washington 25, D. C.; 15 cents.

For the Professional

National Academy of Sciences-National Research Council's Food and Nutrition Board has issued "Principles and Procedures for Evaluating the Safety of Food Additives" (Publication 750, 9 pages, free), and "Problems in the Evaluation of Carcinogenic Hazard From Use of Food Additives" (Publication 749, 44 pages, $1). No. 750, a revision of an earlier statement of the Food and Nutrition Board's Food Protection Committee, is "intended to provide a reasonable basis for designing an investigation of the safety of an additive." This report also includes a section on scope of investigations. Its parting thought: "Evaluation of the safety of each proposed use of an additive is a unique problem. Guidance is possible only in general terms." In No. 749 the Food Protection Committee addresses itself to the primary problem of evaluating the carcinogenic hazards: the recognition of weak carcinogenic properties. The report outlines problems and suggests procedures in designing and carrying out animal tests for carcinogenicity. The report does not discuss substances that are food additives nor does it attempt to assess hazard from such use, being concerned only, as its title suggests, with the principles of evaluation. A reminder in the introduction points out that "problems involved in estimating this hazard are very different from those previously encountered in studies of occupational and environmental carcinogenesis." It is difficult to make epidemiological studies "and virtually impossible to distinguish those in the general population who have been exposed from those who have not been exposed to additives. . . ."

Copies from Printing and Publishing Office, NAS-NRC, 2101 Constitution Ave., Washington 25, D. C.

The Environment: Ground Zero and Up

Sewage

A recent study financed by the Federal Housing Administration and conducted by the Public Health Service's Robert A. Taft Sanitary Engineering Center indicates that the need for a distribution box at the beginning of a soil absorption field used in connection with a septic tank is not necessary in certain circumstances. The conventional absorption system has consisted of tile lines laid at the same elevation; this has necessitated introducing the liquids equally to all branches of the system. Researchers now say that such an arrangement is not necessary and that a "serial distribution" type of soil absorption system is satisfac-

tory. In the serial system, sections of the absorption field are used in a consecutive order; the first section fills with the sewage effluent and then overflows to the second section and so on through all the sections in the field. The study cites at least three advantages: One, the importance of variable absorption rates is minimized because each section of the system is compelled to absorb the effluent until its ultimate capacity is utilized; two, each section of the system will be used to full capacity before failure of the system occurs; and three, the cost of constructing and installing a distribution box is eliminated. Reported in "Addendum to Part I Manual of Septic Tank Practice," PHS Publication No. 526; single copies from Public Inquiries Branch, Public Health Service, Washington 25, D. C. The basic manual plus the Addendum from Government Printing Office, Washington 25, D. C., for 35 cents.

Water

A short 35 mm color, sound film is now available demonstrating the use of the membrane filter in the examination of water. It consists of 80 frames and takes 12 minutes to show. For "professional and nonprofessional people at any level of competence that might be expected to use the filter technics." The film shows the advantages and disadvantages of the membrane filter over other methods and the equipment required in this technic. Communicable Disease Center, P. O. Box 185, Chamblee, Ga., for loan (United States only). For purchase: United World Films, Inc., 1445 Park Ave., New York 29, N. Y.

Polluted Air

The recently published "A Digest of State Air Pollution Laws" compiled by Samuel M. Rogers and Sidney Edelman of the Bureau of State Services, PHS, contains complete source references to the laws quoted. At least one digest appears for each of the 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands. Supplements will be issued. PHS Publication No. 711, Government Printing Office, Washington 25, D. C.; 75 cents.

An Ionizing Atmosphere

The Report of the January, 1960, White House Conference on Fallout Protection begins with a statement by the Special Committee on Civil Defense of the Governors' Conference, calling the meeting one "of major and sobering significance" and emphasizing the "direct relationship between a fallout shelter program and the successful conduct of foreign policy. . . ." Those concerned with health services in disaster should find useful background information in such papers in the report as, "Effects of Nuclear Weapons and the Nature of Fallout" (by John A. McCone, chairman, Atomic Energy Commission); "Feasibility of Fallout Shelter—Materials, Designs and Costs—Standards, and Relation of Fallout Shelter to Radiological Defense, Evacuation and Recovery" (by Leo A. Hoegh, director, Office of Civil Defense Mobilization); and "Federal Action in Support of State and Local Initiative: Medical Supplies and Personnel" (by Secretary Arthur S. Flemming). A limited number of report copies are available from Division of Health Mobilization, Bureau of State Services, PHS, Washington 25, D. C. (The first annual report of the Division of Health Mobilization—including its plans for 1960—was published in January, and is presumed to be available. The division was established in May, 1959, when assignment of responsibility for the nation's health mobilization effort was assigned to the Department of Health, Education, and Welfare by the Office of Civil and Defense Mobilization. The latter retains policy direction and program control.)

NEWS FROM THE FIELD

WHO News

WHO Report on Radiation

"The Effect of Radiation on Human Heredity: Investigation of Areas of High Natural Radiation," is the first report of WHO's Expert Committee on Radiation. Areas throughout the world which would be suitable for studies of effects on the human population are surveyed and principles of planning investigations in these areas are set forth. The committee explains why portions of the states of Kerala and Madras in India, having high natural radiation and with a population of around 80,000 subjected to low-level chronic irradiation, are probably the only areas now known which might profitably be investigated. "The excess amount of radiation being received by these populations in Kerala and Madras States is, according to present estimates, within the range of that necessary to double the mutation rate. Such excess radiation per generation is at least several times greater than is likely to be received on the average by any substantial number of people elsewhere from the sum of natural background radiation, together with the total of artificially-produced radiation on the present scale."

Plans for the "Kerala Project" grew out of the 1958 meeting of this committee, which was headed by Professor J. V. Neel, chairman, Department of Human Genetics, University of Michigan Medical School. The committee's rapporteur was Dr. W. J. Schull, associate professor of human genetics, in the same school.

The report in its most technical aspects is for the use of physicists and geneticists, but at the same time those with an interest in demography will find it culturally informative.

WHO Technical Report Series, No. 166, 1959; 47 pp.; 30 cents. Columbia University Press, 2960 Broadway, New York 27.

WHO Adds to Family of Publications

WHO began publishing Public Health Papers in December, 1959. Although they are to be issued "at irregular intervals," three, running about 50 pages each, have been published in a three-month period. WHO will use these almost pocket-size booklets to publish "occasional papers that have been prepared as contributions to the study by (WHO) of a particular health question, and that have been considered to be of interest to a wider circle of readers than those for whom they were originally written." Their purpose is "to stimulate international thinking, discussion and planning by the publication of personal ideas, observations and suggestions of individuals or groups."

No. 1, "Psychiatric Services and Architecture," is the joint work of two psychiatrists who administer hospitals and an architect who specializes in hospitals. The booklet deals not only with the planning and management of psychiatric hospitals but also with the structure and function of outpatient departments, wards in general hospitals and rehabilitation services. The authors are realists: "Since knowledge of the etiology of mental disease increases daily and new methods of treatment are continually emerging," their recommendations "may soon become out of date" and they hope these "will be reviewed within a few years." (Illustrated with site and floor plans.)

No. 2 is called "Epidemiological Methods in the Study of Mental Disorders." The aim is to "present, by precept and example, the general principles of this approach in medicine and to point out

both its potential and the practical limitations inherent in its application in psychiatry." The author, a professor of epidemiology, chooses his examples "simply to illustrate the practical problems most often encountered" in epidemiological studies of mental disorders. "By their discussion I hope to spare the novice in the field some of the disappointments and frustrations which might prevent his going on to do useful work."

No. 3, "Health Services in the USSR," is the report prepared by 23 WHO Fellows from 21 countries who participated in a study tour of the USSR organized by WHO. The booklet appears to cover the field within the limitations of 47 pages of text. Incidental intelligence: Doctors work a six and a half hour day. "On an average a district doctor sees 15 patients in the clinic (five per hour) and makes six home visits per day. An official car with a chauffeur is provided for district visits, and the doctor is usually accompanied by a nurse." Nurses are primarily looked upon as public health workers. Their training course lasts three years. Experienced nurses are encouraged to enroll as medical students. "Assistant nurses," who appear to fall into the same category as the nurse-aide, "are only employed because of the shortage of fully qualified nurses."

Public Health Papers are available through Columbia University Press, 2960 Broadway, New York 27, N. Y. Nos. 1 and 3 are 60 cents; No. 2 is $1.

Mental Health South of the Sahara

The possibility is great that mental illness will increase in a human society like the African that is evolving rapidly and with so many cultural and social upheavals. And "Africans are all the more susceptible to mental disorders in that they are exposed from birth to (severe) infections, and because malnutrition—aggravated at present by alcoholism — is more or less general in Africa." These are the background observations in the recently published final report of the Seminar on Mental Health in Africa south of the Sahara, held at Brazzaville late in 1958 "to define the first measures to be adopted in the field of mental health in Africa." (Reviewed in WHO Chronicle February, 1960. A limited number of copies of the seminar report are available from WHO Regional Office for Africa, P. O. Box 6, Brazzaville, Republic of the Congo.)

The road of "first measures" may prove to be winding and narrow in getting psychiatric services organized in southern Africa. But there is some solace to be taken from the fact that since the mental health fields there are comparatively untilled, services can be developed that truly meet needs. Since financial means are short, the system of services devised will have to be inexpensive—but imaginatively conceived—to begin with.

These and other kinds of challenges described in the report could carry messages on the ways in which the quality of medical care in Africa might be generally improved in the process of setting up programs. The shortage of specialized psychiatrists may make it necessary to use the services of interested and further trained general practitioners. And in the opinion of the seminar group, psychiatrists practicing in Africa must have a thorough grounding in tropical medicine. They believe, too, that one principle of psychiatric assistance is especially to be followed, namely, that of teamwork, with some members of the team being local inhabitants. WHO's recently published ninth "Annual Epidemiological and Vital Statistics" (for 1956) estimates that there may be one doctor in Africa for every 50,000 to 70,000 inhabitants.

Indiana Surveys County Homes

Twenty staff members — engineers, sanitarians, nurses, nutritionists, and health educators—of the Indiana State

Board of Health—are conducting an intensive three and a half month survey of the state's 73 county homes at the request of a group of home superintendents and matrons. The State Commission on Aging, the Indiana Division of Mental Health, the Indiana Department of Public Welfare, and the State Fire Marshal joined the State Board of Health in planning the survey. To be reviewed are the medical care provisions, general and food sanitation, health status of residents, vital statistics of residents and staffs, nutrition and food service, rehabilitation and recreation, construction, and fire safety. Two members of the State Health Department staff will visit each county home.

A report of the survey will be published and will eventually form a part of the Indiana Report to the White House Conference on Aging in January, 1961.

Other news from Indiana: The 1959 legislature established a Commission for the Handicapped and a Division of Rehabilitation within the framework of the State Board of Health. The new division will be responsible for keeping a central register of the handicapped, discovering rehabilitation services for them, promoting the recruitment and training of personnel, helping local communities develop programs for the handicapped, and coordinating the efforts of official and voluntary agencies offering rehabilitation services.

In announcing the appointment of Charles E. Henley as the division's field representative, Andrew C. Offutt, M.D., state health commissioner, took the opportunity to comment on the quantity and quality of rehabilitation services in the state. While many agencies have rehabilitation functions, no single agency or group is presently familiar with all rehabilitation services. "Professional personnel have . . . recognized the need for a central registry of the various services offered (for the) prompt and proper referral of handicapped persons." Records show that such persons have had to visit two or three—or more—agencies before finding one with the services needed.

Mental Health and Social Welfare

A score of sessions on "Mental Health in the Decade Ahead" will be the focus of attention for a full day, June 8, during the week-long Annual Forum of the National Conference on Social Welfare in Atlantic City, N. J.

Among the speakers of the day and their topics are Robert R. Felix, M.D., director, NIMH, on the "Elements of a Comprehensive Mental Health Program," and Brock Chisholm, M.D., former director-general of WHO, on "World Perspective on Mental Health."

Other sessions will be held on: The Psychiatric Clinic Comes to the Home; Financing Mental Health Programs; Group Work Services in Mental Hospitals and Outpatient Clinics; and Treatment of the Severely Disturbed Client in a Public Welfare Setting.

(Editor's note: NCSW has recently published its Study Commission's "Report on the Future Role of the National Conference on Social Welfare." It includes a "more detailed statement of purposes" for NCSW, and recommendations on NCSW's Annual Forum, "machinery for program planning," and on "Non-Forum Activities of the NCSW." 12 pp.; may be available. 22 West Gay Street, Columbus 15, Ohio.)

Area Planning: Health Facilities

The Public Health Service and the American Hospital Association have appointed an ad hoc committee to develop principles for community-wide planning of health facilities and to establish guide lines for planning groups concerned with improved hospital services, especially in metropolitan areas. Announcing the for-

mation of the committee, Edwin L. Crosby, executive director of AHA, noted that most areas of the nation do not have such planning groups.

Committee chairman is George Bugbee, president of Health Information Foundation, a Fellow of APHA. Other members and Fellows of APHA on the committee are: Ray E. Brown, superintendent, University of Chicago Clinics, Chicago, Ill.; Jack C. Haldeman, M.D., assistant surgeon general and chief, Division of Hospital and Medical Facilities, Public Health Service; Hayden C. Nicholson, M.D., executive director, Hospital Council of Greater New York; Hiram Sibley, secretary, Council on Planning, Financing, and Prepayment, American Hospital Association, Chicago; Ray E. Trussell, M.D., chairman, Columbia University School of Public Health and Administrative Medicine, New York City; and Willard A. Wright, M.D., chairman, Committee on Medical and Related Facilities, American Medical Association, Williston, N. D.

For the Better Control of Diseases

A joint liaison committee has been named by the Conference of State and Territorial Epidemiologists and the Association of State and Territorial Public Health Laboratory Directors to help make relationships between laboratories and epidemiologists more effective in the control of diseases of public health significance.

Henry Bauer, Ph.D., director of Medical Laboratories, Minnesota Department of Health; George H. Hauser, M.D., director, Division of Laboratories, Louisiana State Board of Health; and Elmer L. Shaffer, Ph.D., director of laboratories, New Jersey State Department of Health (chairman for 1960), represent the ASTPHLD. Charlotte Silverman, M.D., Dr.P.H., chief, Division of Epidemiology and Communicable Disease Center, Maryland State Department of Health; George H. Agate, M.D., chief, Acute Communicable Disease Division, Michigan Department of Health; and Frederick H. Wentworth, M.D., M.P.H., chief, Division of Communicable Disease, Ohio Department of Health, represent the CSTE. The chairmanship will alternate each year between a laboratory director and an epidemiologist. The committee will meet on June 12, 1960, in Atlanta, Ga., before the biennial meeting of the ASTPHLD. In 1961 the committee will meet during the biennial conference of the CSTE.

A Declaration of Democratic Intent

The co-investigators on a new project to develop and evaluate "an unprecedented community service" for mental patients and their families state that "the position of the public health nurse in providing services for the mentally ill is a simple declaration of democratic intent that no individual in the community in need of medical care should go unnursed or poorly nursed." The project's co-sponsoring agencies, Connecticut State Department of Mental Health and Visiting Nurse Association of Hartford, "propose to test the assumption that mental patients can be professionally serviced, under medical supervision, by community nurses."

Norwich State Hospital is cooperating in this three-year research-service project. One of the study's aims is to set up public health nursing services for patients returning to the Hartford area from this hospital.

An inservice education program for public health nurses will be developed as an integral part of the project. The local mental health association, community agencies, the professions, and public spirited citizens cooperated in planning the study. Financial support is from the NIH.

Florence C. Austin, executive director, Visiting Nurse Association of Hartford,

and Raymond Forer, Ph.D., research sociologist, Connecticut State Department of Mental Health, are the investigators.

Foreign Policy and World Health

A committee which has met several times recently to advise Secretary of State Herter on international health matters has been constituted a permanent Interdepartmental Committee on International Health Policy. Its assignment includes the establishing of long-range goals and the planning of programs. Federal expenditures for international health programs amount to approximately 100 million dollars in the current fiscal year.

HEW Secretary Arthur S. Flemming serves as chairman. The other members are James W. Riddleberger, director of the International Cooperation Administration; George V. Allen, director of the U. S. Information Agency; Francis O. Wilcox, assistant secretary for International Organization Affairs, Department of State; and Leroy E. Burney, M.D., Surgeon General, Public Health Service.

Data Pool for Occupational Health

A new International Occupational Safety and Health Information Center has been activated. The activators are the International Labor Office (ILO), the International Social Security Association, and national safety organizations. Headquarters are at the ILO office in Geneva.

Access to the latest information on materials, processes, equipment, and problems is essential in combating occupational illness on a world-wide basis. "Certain institutions already possess (some of these latest data) . . . but none possesses all of them. . . . Ceaseless technological progress means a constant stream of new . . . substances whose risks are often little known." An international center for exchanges of information should provide occupational health personnel throughout the world "as rapidly and economically as possible with bibliographical references, abstracts, microfilms, photostats or translations."

Participating national bodies — both official and private—will send information to ILO on standard forms. After classification and translation, data will be distributed on index cards to subscribers. Annual subscription to the service which began early this year will be about forty dollars. Further information from the Washington Branch of ILO—at 917 15th Street, N.W., Washington 5, D. C.

Schools for Sanitary Engineers

The 1959 Annual Report of the Engineers' Council for Professional Development lists three schools with four-year sanitary engineering curricula as being accredited: the University of Illinois, Pennsylvania State University, and Rutgers. ECPD is tightening up the process of accepting options in the major engineering specialties. The number of sanitary engineering options in civil engineering has been drastically reduced—26 were listed in the 1958 report; only 12 are listed in the 1959 report. ECPD accredits baccalaureate programs only.

Orthopsychiatrists Elect

The American Orthopsychiatric Association elected the following officers at its 57th annual meeting at Chicago in February:

President—William S. Langford, M.D., professor of clinical psychiatry, Columbia University College of Physicians and Surgeons

President-Elect — Fritz Redl, Ph.D., distinguished professor of behavioral sciences, Wayne State University, Michigan (to take office in 1961)

Vice-President—Gisela Konopka, Ph.D., professor of social work, University of Minnesota School of Social Work

Secretary—Soll Goodman, M.D., clinical director of the Westchester Center for Child Guidance, Larchmont, N. Y.

Dr. Langford is a member of APHA's Program Area Committee on Accident Prevention.

PERSONALS

MARY F. CHAMPLIN, M.P.H.,* former health education chief, Allegheny County (Pa.) Health Department, is now health consultant, National Committee on the Aging, succeeding ALEXANDER KRUGER, M.D.,† now with the New York City Department of Hospitals.

BERNARD E. CONLEY, Ph.D.,* former director, Committee on Toxicology, American Medical Association, is now medical research consultant to Hoffmann-La Roche, Inc., Chicago, Ill.

NATHANIEL H. COOPER, M.D., M.P.H.,* director of health, Community Council of Greater New York, is now associate medical director, American Heart Association, New York City.

JAMES E. CRANK,* formerly assistant administrator, is now associate administrator, University Hospital and Hillman Clinic, University of Alabama Medical Center, Birmingham.

RENE J. DUBOS, M.D., member and professor, Rockefeller Institute for Medical Research and 1948 APHA Lasker Award winner, has been selected as the recipient of the $5,000 Passano Award for 1960.

HELEN ELLERBY, M.P.H.,† former dental hygiene consultant, Division of Dental Public Health, PHS, is now dental hygienist, Division of Dental Education, Wisconsin State Health Department.

HARVIE R. ELLIS, D.V.M.,† director, Veterinary Section, Division of Communicable Disease Control, Arkansas State Board of Health, has received the Arkansas Veterinarian of the Year award for 1959.

MARIE F. GATELY, M.P.H.,† director of public health education, Boston Health Department, has been appointed executive secretary to the Massachusetts Health Council.

ELEANOR HALL, R.N., formerly with the Nursing Bureau, Syracuse (N. Y.) Health Department, is now supervising nurse, Dutchess County (N. Y.) Health Department.

HARRY B. HARDING, M.D.,* former associate professor, Department of Bacteriology, Northwestern University Medical School, Chicago, Ill., is now clinical microbiologist, Department of Pathology, Evanston Hospital, Evanston, Ill.

RICHARD H. MATTOX has resumed his duties as director, Office of Personnel Administration, New York State Health Department, after a two-year leave of absence, during which he served on the staff of the International Cooperation Administration in Iran.

LEONARD F. MENCZER, D.D.S., M.P.H.,* public health dentist, Hartford (Conn.) Health Department, is the recipient of the Hartford County Medical Association's achievement award for promotion of fluoridation in the metropolitan district water system.

ERSKINE MORSE, D.V.M., formerly with Iowa State University, has been named dean, Purdue University School of Veterinary Medicine.

RICHARD NAUEN, M.D.,† formerly director, J. N. Adams Memorial Hospital, Perrysburg, N. Y., is now deputy director for medical services, Monroe County (N. Y.) Department of Social Welfare.

ELAINE W. NETA, formerly with the Orlando (Fla.) Visiting Nurse Association, is now public health nurse, the Menomonee Indian Reservation, District 6, Wisconsin State Health Department.

MORRIS SCHAEFFER, M.D., Ph.D.,* director, Bureau of Laboratories, New York City Department of Health, has been named a member of the WHO Expert Advisory Panel on Virus Diseases.

HAROLD C. STUART, M.D.,* professor of maternal and child health, emeritus, Harvard School of Public Health, and consultant, Children's Hospital, Boston, Mass., is the recipient of the 1959 Borden Award of the American Academy of Pediatrics, conferred in recognition of the important contributions he has made to a better understanding of growth patterns in infants and children.

LUCIUS P. VARN, M.D., former part-time health officer, Orangeburg County (S. C.) Health Department is now the full-time health officer, succeeding C. I. GOODWIN, M.D., retired.

MAJOR STEFANO VIVONA, MC, USA,* formerly chief, Preventive Medicine Research Branch, U. S. Army Medical Research and Development Command, Washington, D. C., is now chief, Preventive Medicine Division, Office of the Surgeon, Eighth United States Army, Korea.

LEROY K. WHEELOCK, former executive secretary, Engineering Manpower Commission, has been elected secretary, Engineers Joint Council, New York City.

RICHARD M. WILCOX, M.D., former director, Local Health Services, Oregon State Board of Health, is now Oregon state health officer.

* Fellow.
† Member.

succeeding HAROLD M. ERICKSON, M.D., M.P.H.,* now deputy director of public health for California.

BARNES WOODHALL, M.D., a neurosurgeon with the Duke University Medical School, has been appointed dean of the school to succeed WILBURT C. DAVISON, M.D., retiring after 33 years in the deanship.

JOHN B. YOUMANS, M.D., technical director of research, Office of the Army Surgeon General, will receive the highest award of the American College of Cardiology, the Groedel Medal, in May.

DEATHS

JANE T. HEFFERNAN,† of New Orleans, La. (Public Health Nursing Section).

DANIEL G. HOWELL,† director, Research and Plans, Los Angeles County Tuberculosis and Health Association, on February 5 (Public Health Education Section).

EARL LOMON KOOS, Ph.D.,* Department of Sociology, Texas Technological College, Lubbock, Tex., on March 17 (Unaffiliated).

EUGENE J. LEBOWITZ,† assistant sanitarian, Los Angeles (Calif.) City Health Department, on August 16, 1959 (Engineering and Sanitation Section).

JOHN C. ROGERS, M.D., Ph.D.,† health officer, Henderson County (Ky.) Health Department (Health Officers Section).

LOUISE SITZENSTOCK, R.N.,* of Anaheim, Calif., retired (Public Health Nursing Section).

OSCAR D. STAGE, D.D.S.,† chief dentist, Erie County (N. Y.) Department of Health, on February 18 (Dental Health Section).

LUCIEN VIBOREL, secretary-general of the International Union for Health Education of the Public, on December 11 in Paris.

CONFERENCES AND DATES

American Public Health Association, Eighty-Eighth Annual Meeting, San Francisco, Calif. October 31–November 4.

Eighty-Ninth Annual Meeting, Detroit, Mich. November 13–17, 1961.

State and Regional Public Health Meetings—May, June, and July:

Arkansas Public Health Association. Hotel Marian, Little Rock. May 10–11.

Colorado Public Health Association with Western Branch, APHA. Shirley-Savoy Hotel, Denver. May 25–28.

Georgia Public Health Association. De-Soto Hotel, Savannah. May 16–18.

Louisiana Public Health Association. Jung Hotel, New Orleans. May 18–20.

Michigan Public Health Association. Pick-Fort Shelby Hotel, Detroit. May 12.

Missouri Public Health Association. Hotel Governor, Jefferson City. May 9–11.

New York State Public Health Association. Hotel New Yorker, New York City. May 23–27.

North Dakota Public Health Association. Hotel Gardner, Fargo. May 16–17.

Ohio Public Health Association. Neil House, Columbus. May 26–27.

South Carolina Public Health Association. Ocean Forest Hotel, Myrtle Beach. May 12–14.

Virginia Public Health Association. Hotel Roanoke, Roanoke. May 16.

West Virginia Public Health Association. West Virginia Hotel, Bluefield. May 12–13.

Western Branch, APHA with Colorado Public Health Association. Shirley-Savoy Hotel, Denver, Colo. May 24–26.

Wisconsin Public Health Association. Wisconsin Center, University of Wisconsin, Madison. June 14–15.

Meetings of Other Organizations:

American College of Nurse-Midwifery. Sheraton-Park Hotel, Washington, D. C. May 6–7.

American Diabetes Association. Deauville Hotel, Miami Beach, Fla. June 11–12.

American Hearing Society. Statler Hotel, Detroit, Mich. May 24–27.

American Home Economics Association. Denver, Colo. June 28–July 1.

American Medical Association. Americana Hotel, Miami Beach, Fla. June 13–17.

American National Red Cross. Kansas City Auditorium. Kansas City, Mo. May 16–18.

American Nurses' Association. Biennial. Miami Beach, Fla. May 2–6.

American Physical Therapy Association. Penn-Sheraton Hotel, Pittsburgh, Pa. June 26–July 1.

American Psychiatric Association. Traymore Hotel and Convention Hall, Atlantic City, N. J. May 9–13.

American Social Health Association. New York, N. Y. May 9.

* Fellow.
† Member.

American Society of Medical Technologists. Ambassador Hotel, Atlantic City, N. J. June 19–24.

American Water Works Association. Bal Harbour, Fla. May 15–20.

Canadian Dietetic Association. Queen Elizabeth Hotel, Montreal, Quebec. June 14–16.

Child Study Association. New York, N. Y. May 21.

Conference for Health Council Work. Atlantic City, N. J. June 4–5.

International Congress on Occupational Medicine. Waldorf Astoria, New York, N. Y. July 25–29.

International Symposium on Epidemiology. Rome, Italy. June 29–30.

International War-Prophylaxis Congress for Physicians. Grand-Hotel Huis ter Duin at Noordwijk on Sea, Holland. May 23–28.

National Association of Sanitarians. Jack Tar Hotel, San Francisco, Calif. July 18–22.

National Conference on Social Welfare. Atlantic City, N. J. June 5–10.

National Publicity Council for Health and Welfare Services—Institute on Health and Welfare Public Relations. New York, N. Y. June 2–3.

National Tuberculosis Association. Statler and Biltmore Hotels. Los Angeles, Calif. May 15–20.

Pan American Medical Association Congress. Mexico City, Mexico. May 2–11.

Pan American Medical Women's Alliance. San Juan, Puerto Rico. June 3–8.

Public Health Conference on Records and Statistics. Eighth National Meeting. Washington, D. C. June 13–16.

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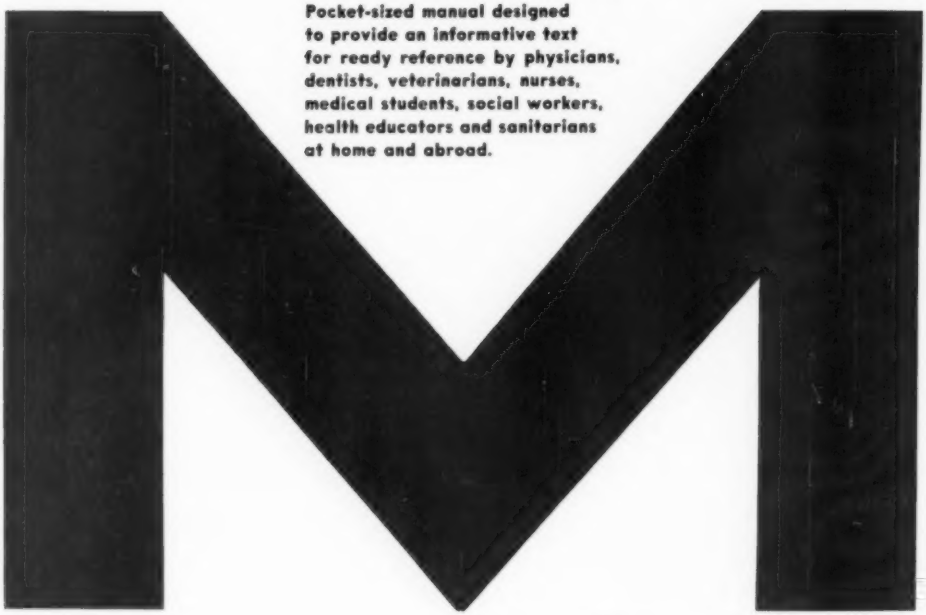

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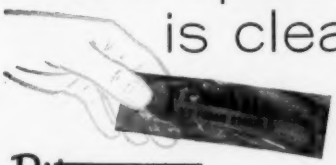

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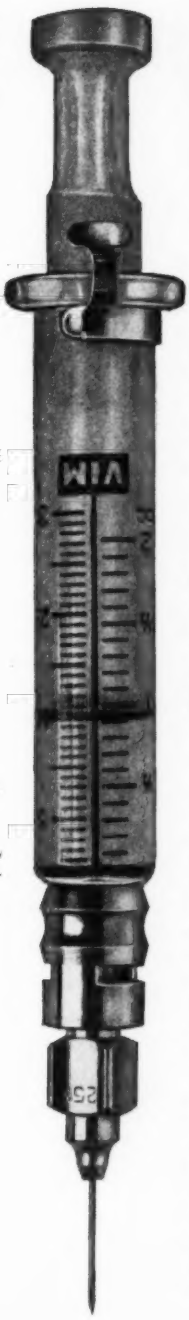

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